JOURNAL of GEOGRAPHY

for Teachers of
ELEMENTARY,
HIGH SCHOOL
and COLLEGE
GEOGRAPHY

Volume LV
May 1956
Number 5

PUBLISHED BY
A. J. NYSTROM & CO.,
FOR THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS
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ESSENTIALS OF GEOGRAPHY

By

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Kent State University

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Dr. Warman is Associate Professor and Secretary, Graduate School of Geography, Clark University; Past President of the NCGT and of the New England Association of Social Studies Teachers. Because of his long experience in successful presentation of TV programs, we requested him to prepare this material as a possible help to others.

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Mrs. Goodman of the Map Division, Library of Congress, has received the first Honors Award to be given by a division of the Special Libraries Association. She was selected for this honor because of her contributions to the field of geography and map librarianship, including bibliographies of educational maps which have appeared in the JOURNAL OF GEOGRAPHY and in other publications.

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Dr. Doerr is Associate Professor of Geography, University of Oklahoma. He received a $500 award from the University for "extraordinary excellence in the teaching and counseling of freshmen and sophomores." Mr. Freile is a native of Ecuador and is a graduate student at the University of Oklahoma.

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Dr. Raup, Head of the Department of Geography and Geology, Kent State University, Kent, Ohio is author of the Air Force Text, *Fundamentals of Global Geography*. Mr. Thomas is a graduate student at Kent and is especially interested in the effective use of photographic techniques as they apply to geographic writing and publishing.

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Mr. Resnick is a Social Studies teacher in the Senior and Junior High Schools, New Brunswick, New Jersey and teaches a course entitled Geography for Teachers at Rutgers University.

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Mrs. Griffis is a teacher of Social Studies in the Junior High School, Weatherford, Texas and author of a children's book entitled *Lantern in the Valley*, which is a study of the problems of a farm family in Japan.

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Authors alone are responsible for opinions and statements in the JOURNAL.

PRINTED IN THE U.S.A.

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The subscription price is $4.00 a year payable in advance. The price of single copies is 50 cents. Postage prepaid on subscriptions from the United States, Canada, Canal Zone, Republic of Panama, Puerto Rico, Cuba, Virgin Islands of the United States, Dominican Republic, Philippines, Guam, Samoan Islands, Hawaii, Mexico, Costa Rica, Guatemala, Nicaragua, Republic of Honduras, Salvador, Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay, Spain and Spanish Colonies. All other countries in the Postal Union add for postage 45¢ on annual subscriptions (total $4.45), on single copies 5¢ (total 55¢). All subscriptions are payable in United States Dollars.

The JOURNAL is the official organ of the National Council of Geography Teachers and is sent to all members. The annual dues, $4.00, are payable to the JOURNAL OF GEOGRAPHY. Extra postage rates for copies sent to foreign countries should be added to the membership dues. Make all remittances payable to the JOURNAL OF GEOGRAPHY, in postal or express money orders or bank drafts.

Send manuscript and books for notice or review to the Editor.
Send orders for back numbers to JOURNAL OF GEOGRAPHY.

Published monthly except June, July and August

PUBLICATION OFFICES: 450-454 AHNAIP STREET, MENASHA, WISCONSIN

Business Correspondence, Membership Dues, and Subscriptions may be sent to Publication office or to

A. J. NYSTROM AND COMPANY
PUBLISHERS, JOURNAL OF GEOGRAPHY
3333 ELSTON AVENUE, CHICAGO 18

Entered as second-class matter January 15, 1919 at the post office of Menasha, Wisconsin under the Act of March 3, 1879.

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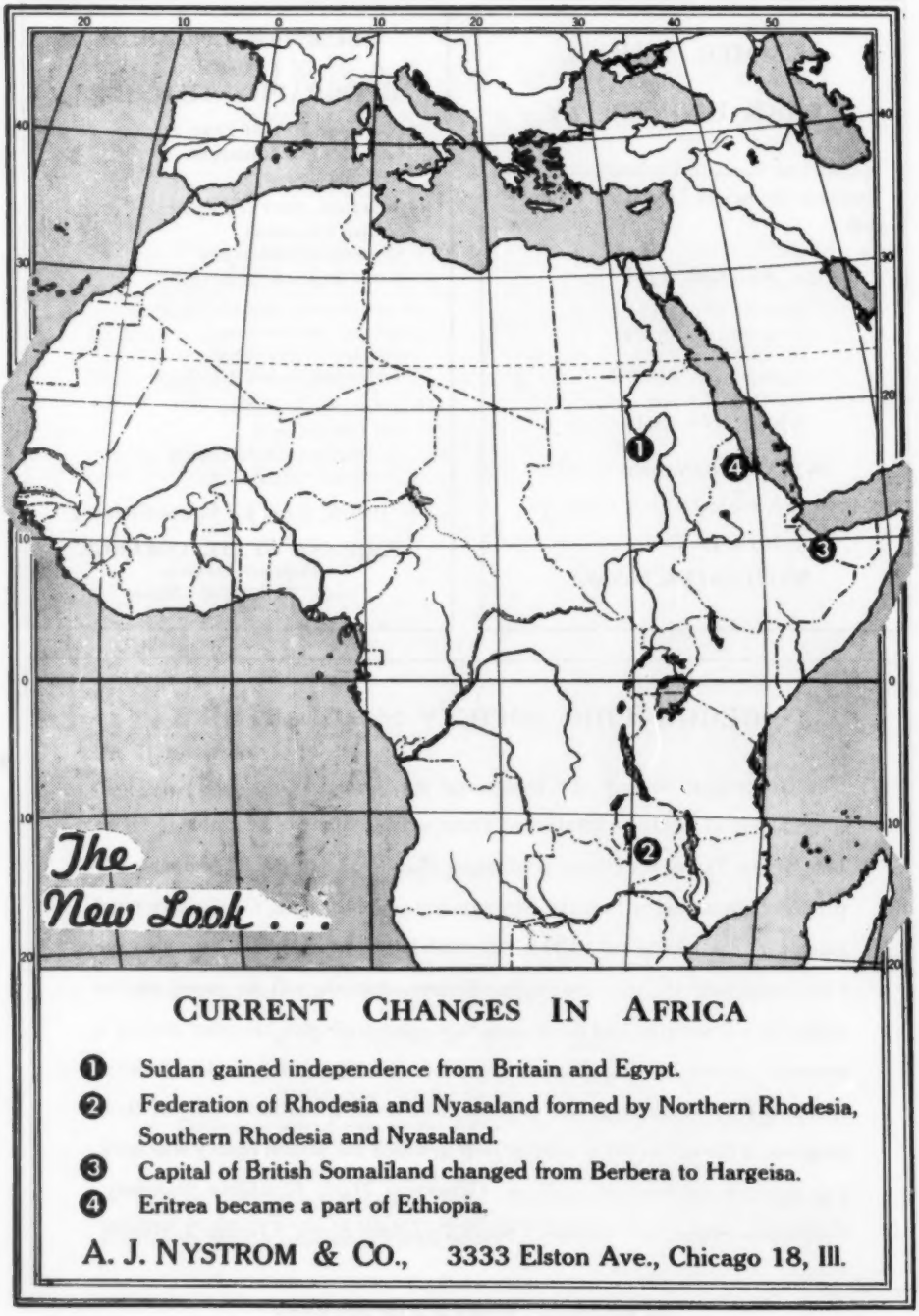

CURRENT CHANGES IN AFRICA

1. Sudan gained independence from Britain and Egypt.
2. Federation of Rhodesia and Nyasaland formed by Northern Rhodesia, Southern Rhodesia and Nyasaland.
3. Capital of British Somaliland changed from Berbera to Hargeisa.
4. Eritrea became a part of Ethiopia.

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VOLUME LV MAY 1956 NUMBER 5

TELECASTING TECHNIQUES IN GEOGRAPHY*

HENRY J. WARMAN
Clark University, Worcester, Mass.

Any college or university professor who presents subject matter over the air, be it by radio or television, soon realizes that while he may be trying to simulate a classroom situation he will never and probably should never achieve such a condition. The reasons are many especially in telecasting.

THE TELEVISION TEACHER HAS NEW AND WIDER RESPONSIBILITIES

First among the conditions which alter the television classroom from the college classroom is this. The professor is advertising as well as teaching. He is "fronting," if you will, for his subject, his institution, and his profession. Since his role definitely is one of public relations it is not unreasonable to expect that he should be remunerated in part from funds set aside for such promotional purposes. His total salary certainly should be greater than the sum paid for an evening or extension course. By the same token, however, the college or university should be selective in fostering such programs.

Secondly, a point which indicates the different conditions of the television classroom is that there usually is no or little opportunity for discussion. The professor must anticipate in his preparation the questions which could be asked, not only by his course credit viewers but by the thousands of other viewers. His previous classroom experience should aid him greatly in selecting the obstacles.

* During the first semester of the academic year 1954-55 Dr. Warman presented a College Credit T.V. Course "Why the Weather?" over Channel 14 WWOR-TV, Worcester, Mass. This article contains some of the more specific preparations which are offered for the assistance of others who are contemplating or actually engaged in telecasting geographic material.

Thirdly, he must reverse his usual classroom technique of bridging the previous lecture or discussion to the one at hand. To start a program by saying, "Now, you will remember that last week we talked about temperature and humidity—" simply means that all persons who did not hear the previous program just "flip the switch." The television teacher may, in fact, he should always refer to what is ahead in the present program or ensuing ones. He should never refer to the past. In short, he must be forever projecting new ideas not enlarging on old ones. Not only must attention be gotten, but it must be kept. Old, accepted, terms of the subject matter must be reviewed, then re-phrased. For example, a program entitled "Atmospheric Pressure" would have appeal to an academic audience only. If it were called "What Makes the Wind Blow," the listeners would be increased in number.

Fourthly, the television teacher must be alert to current events. To interrupt a planned program on weather with explanatory details of a passing hurricane is vital for the respect of the teacher's ability and the continued success of the program.

Fifthly, timing and movement are paramount. The television teacher needs to put first things first; and to weigh the various items according to their relative importance. Two all important questions are "How much time shall I give to each item?" and "When shall I present each item?" In other words, "What are the pegs on which I shall hang my big ideas?", and "How shall I arrange the pegs so I may move from one to the others?"

The Television Geography Teacher Must Wed Matter and Method

Globes, maps, graphs, charts, diagrams, pictures (still and motion), instruments, and tables are the tools of the geographer. He knows how to use them. In telecasting they become extremely useful for by the very arrangement of them in a sensible sequence, he can make his outline for the lecture or discussion. Since both panoramic and telephoto lenses are to be used the telecaster can select his items ahead of time—those to be "blown-up," made large enough to occupy the whole screen, and those to be panoramaed. By such preparation he exercises his teacher responsibility, namely to highlight the important things. The show producer and the cameramen do not know—the teacher should know what he wants to select for close scrutiny. Finally in so arranging the "cue" sheets and

the stage sets and properties the television teacher provides for the highest essential of all—*movement*. It is not enough to sit and talk—one must be up, moving about purposefully. The "gimmicks" or "gadgets" which geographers have at their disposal are vast and varied. It is unforgivable not to use them. Following are some tangible examples of how the foregoing suggestions were put into practice.

STAGE SET AND PROPERTIES FOR CUE SHEET NO. 2

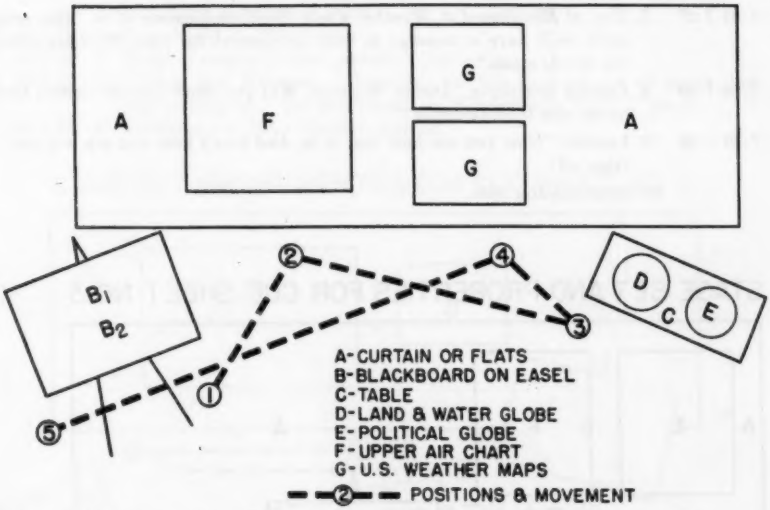


FIG. 1. Producer and Announcer were given Cue Sheet and Stage Set at rehearsal time. Each new position 1, 2, 3, etc. on stage set meant not only a new spot but a new idea to be developed. The final position on every set was at the side of the studio stage. This enabled the announcer to come in easily.

Telecourse #112 "Why the Weather?"

WHAT MAKES UP THE WEATHER? THE CLIMATE?

October 2 Cue Sheet #2 Dr. Henry J. Warman

Time	
7:00–7:01	1. Identification *slide*—Landell announcing the first formal lesson of the course.
7:01–7:03	2. Warman. "Hello—I suppose I should start in true classroom style. So, how about getting a sheet of paper and a pencil. Or if you're still at the dinner table just start to draw on the tablecloth."

7:03–7:04 3. Landell. "Doctor Warman. I'd hate to see tablecloths marked up so why don't I tell them how they can win a *Weathercaster* while the paper and pencil are being sought?"

7:04–7:07 4. Warman. At *Blackboard.* Describes as he draws the "life-layer" on the globe. Then moves to *Upper Air Chart,* shows how far man has gone into the "air-ball."—Moves to *table.*

7:07–7:11 5. Warman at table where there are *land and water globe* and *political globe.* "Suppose we were off in space looking at the earth ——"

7:11–7:24 6. "Now let's get back to earth." Warman moves first to *Weather Maps,* then to *Blackboard 2.* (*Blackboard 1* has been removed while globes are being used.) What are the weather elements at a specific place? Builds a weather station model. (yellow chalk)

7:24–7:27 7. *Top of Blackboard 2. Weather Code.* Brief explanation of it. "But next week we'll have a message in code to unravel for you. We'll see what the clouds mean."

7:28–7:29 8. Landell interrupts, "Doctor Warman. Will you show the televiewers how to use this *Weathercaster*?"

7:29–7:30 9. Landell, "Now you see how easy it is. And here's how you can win one." (sign off)

10. Identification *slide.*

STAGE SET AND PROPERTIES FOR CUE SHEET NO.3

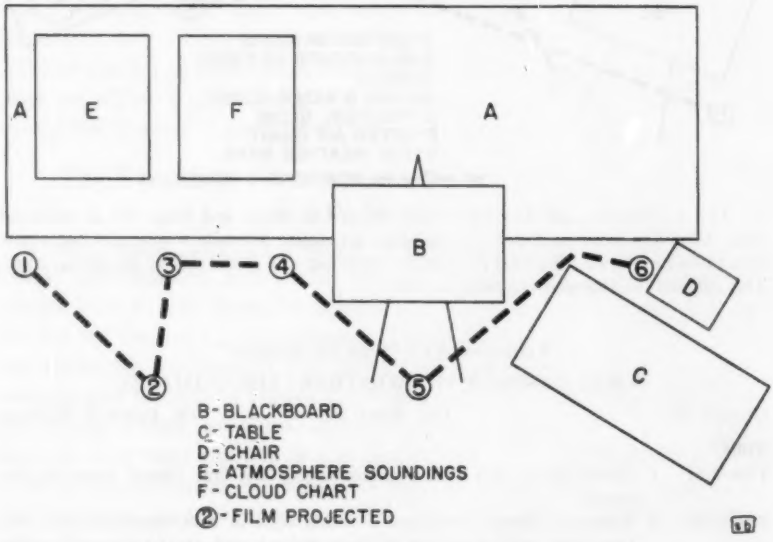


Fig. 2

Telecourse #112—"Why The Weather?"

WHAT DO CLOUDS—"THE SIGNS IN THE SKY"—FORETELL?

October 9 Cue Sheet #3 Dr. Henry J. Warman

Time	
7:00–7:01	1. Identification *slide*—Landell speaking
7:01–7:03	2. *Chart*—Atmospheric sounding—Dr. Warman
7:03–7:06	3. *Film*—"The Earth from Seven Miles Up"
7:06–7:10	4. Warman—At *Chart* again—then to *Blackboard 1.*
7:10–7:12	5. Landell interrupts after *Middle Third of Model is marked off.* Tells how "Weathercaster" may be won.
7:12–7:15	6. Warman gives the instructions then *reads a few proverbs to assist in forecast.* Then to half-way mark.
7:15–7:19	7. *Blackboard 2*—Cloud types.
7:19–7:28	8. *Slides* of clouds (if time permits—12 slides)
7:28–7:29	9. Closing line Warman—"Remember for this week we are all to go thru life looking up." Do assignment on *Temperature* Units 6, 20, 21.
7:29–7:30	10. Identification *Slide*—Landell, sign off.

STAGE SET AND PROPERTIES FOR CUE SHEET NO. 5

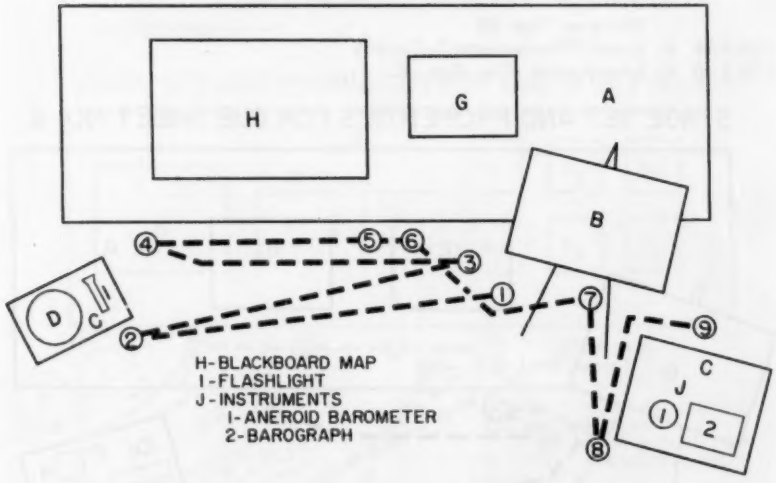


FIG. 3

Telecourse #112—"Why The Weather?"

WHY DOES THE WIND BLOW?

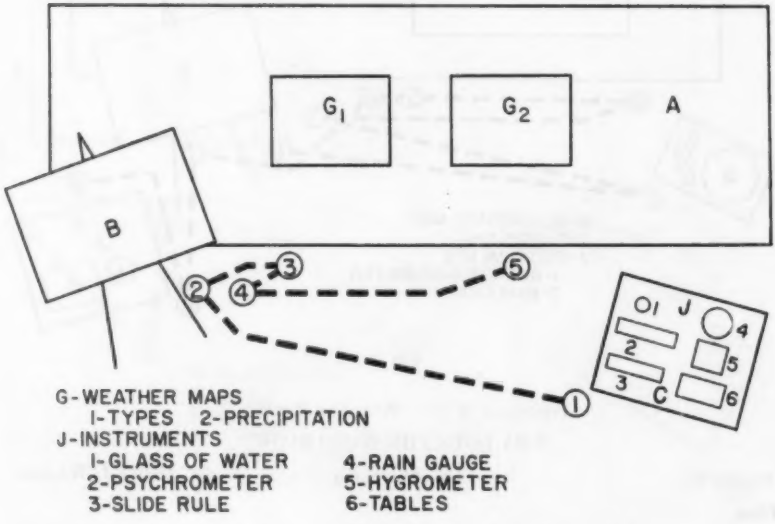
October 23 Cue Sheet #5 Dr. Henry J. Warman

Time	
7:00–7:01	Landell—and identification *slide.* "Tonight you will get some detailed in-

formation which should help you greatly in winning a "Weathercaster." You will recall that we have asked you to estimate the cloud types (and Dr. Warman discussed these two weeks ago); we also asked you to estimate the *temperature* and that was discussed last Saturday; tonight Dr. Warman will discuss the third estimate—wind direction. Remember —put your estimates on a card and mail them no later than noon Friday to Station WWOR-TV, Box 609. Now Dr.—What makes the wind blow?

7:01–7:03 2. Dr. Warman at *Blackboard*—discussion of Atlantic City winds. Then to
7:03–7:08 3. *World-Globe* (Thermal High & Lows). (*flashlight, chalk, eraser*)
7:08–7:11 4. To *Blackboard* for Global sketch of World Pressure belts and winds.
7:11–7:17 5. To *World blackboard map*—discussion of the differences between the actual conditions and the theoretical conditions. How land and water bodies cause complications.
7:17–7:20 6. How to show the Highs and Lows on a *weather map*. Explain millibars.
7:20–7:23 7. How fast will the air move? *Blackboard* then back to *Weather Map*—Pressure Gradient.
7:23–7:28 8. The need for instruments. Demonstrate—*Barometer, Barograph*—on *table*.
9. (Optional) If time permits rebuild the station *model*—stressing pressure and wind factors. (*blackboard*)
10. Next week—We'll put the moisture into the air.
Proverbs: Page 382
7:28–7:29 11. Award "Weathercaster."—Landell
7:29–7:30 12. Identification *slide*—Sign off.

STAGE SET AND PROPERTIES FOR CUE SHEET NO. 6



G-WEATHER MAPS
I-TYPES 2-PRECIPITATION
J-INSTRUMENTS
1-GLASS OF WATER
2-PSYCHROMETER
3-SLIDE RULE
4-RAIN GAUGE
5-HYGROMETER
6-TABLES

Fig. 4

Telecourse #112 "Why the Weather?"

IS IT THE HUMIDITY AND NOT THE HEAT?

October 30 Cue Sheet #6 Dr. Henry J. Warman

Time

7:00–7:01 1. Identification *slide*. Announcer speaking.

7:01–7:07 2. Warman. "How does one figure out how moist the air is?" Demonstrate use of
Psychrometer—dry and wet bulb readings
Hygrometer—Relative humidity, Dew point

7:07–7:10 3. "Where do we find these readings on a station model? Let's move over to the *blackboard* and I'll show you."

7:10–7:20 4. At *graphs*. "What makes it rain or snow?" Use *Blackboard* again.

7:20–7:25 5. *Weather Maps* G1 and G2. *Average precipitation* (by week) in November. "Next month—let us check up on this map." Call attention to New England forecast.

7:25–7:27 6. *World Wide Precipitation* pattern.

7:27–7:28 7. Some World rainfall records.

7:28–7:29 8. Landell—"Dr. Warman, I'd like to award the *Weathercaster* to this week's winner."

7:29–7:30 9. Landell. Sign off—"Next week Doctor Warman will show you how to draw a weather map."

10. Identification *slide*.

STAGE SET AND PROPERTIES FOR CUE SHEET NO.9

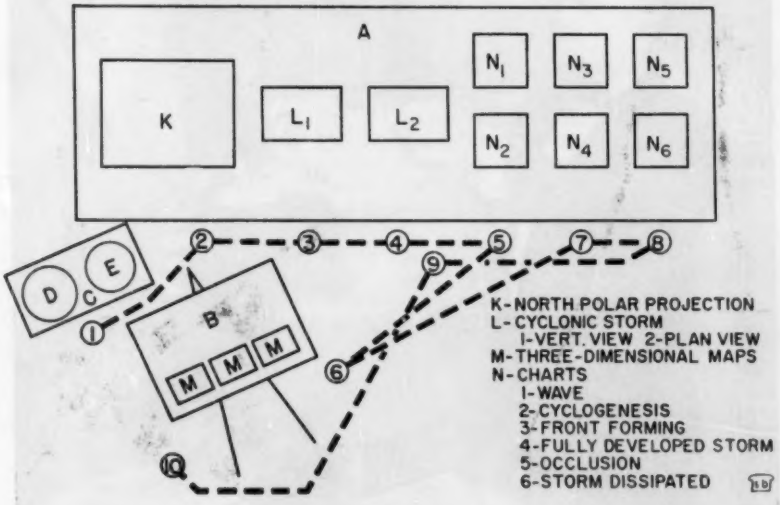


FIG. 5

Telecourse #112—"Why the Weather?"

THE LIFE CYCLE OF A CYCLONIC STORM

November 20 Cue Sheet #9 Dr. Henry J. Warman

Time	
7:00–7:01	1. Identification slide. Landell speaking.
7:01–7:04	2. Warman. "We've got lots to do tonight, so let's jump right into the job. Here are *two globes*. Now where shall I draw the Polar Front on the black and white globe?"
7:04–7:06	3. Turn to *Polar Projection*. Draw the fronts (general locations)
7:06–7:09	4. Discuss the wave theory, using *Plan* and *Vertical* views of a cyclonic storm.
7:09–7:15	5. Move to *Weather map N1*. Show birth of cyclonic storm.
	6. To *Weather map N2*. Show young cyclonic storm.
	7. To *Weather map N3*. Point out parts of mature cyclonic storm.
7:15–7:24	8. At *Blackboard*. "How does this storm die?" *Cold front type occlusion*. A *warm front type* occlusion.
7:24–7:27	9. Return to *Weather maps* N4, N5, N6. To show actual end of storm.
7:27–7:29	10. "How would a cyclonic storm in the southern Hemisphere be born, live and die? Let's draw it on the *blackboard*."

FIG. 6. The telescopic lens can pick up fronts on globe and chalkboard map. There is still need for a globe that spins as well as for one in a cradle.

7:29–off 11. Landell interrupts "Doctor—we'd better award the *Weathercaster* before our time is up."

12. Identification *slide*. "Next week we'll see what makes a thunderstorm." Landell.

A SURPRISE WEATHER FEATURE

Telecourse #112—"Why the Weather?"

Special Telecast

CHRISTMAS WEATHER AROUND THE WORLD

December 25 Cue Sheet #14 Dr. Henry J. Warman

Order of Places in Discussion	*Time Schedule*
1. Slide (Identification)	½ minute
2. Worcester, Mass.	1 minute
3. Holy Land	2–3 minutes
4. Java	2 minutes
5. South Pacific Island	2–3 minutes
6. Hawaiian Island	2–3 minutes
7. Guatemala and Amazon Basin	3 minutes
8. Switzerland	2–3 minutes
9. Latvia	2–3 minutes
10. Scandinavia	2–4 minutes
11. Back to New England	½ minute
12. Sign-off	½ minute
	26½ minutes

Above is the timing and framework for the program "Christmas Weather Around the World." Mr. Burnham will be stationed at your left as you face the camera at a table on which he will show by chalk our air routes to various parts of the world. I shall be in the center behind a small table on which will be a small Christmas tree. After I call on you the camera will follow you to your position by the Political World Map where you will point out the spot you are to talk about. Even tho I ask a question of you, please answer it facing the camera (not me). The viewing audience will be putting itself in your and my place if we do this.

Since there are eight of you (besides Mr. Burnham) I have placed four on each side of me. At the half-way mark in the program we should be shifting from the right hand group to the left. The cues are as follows:

1. Gran Landell—Identification *slide*.
2. Dr. Warman (Standing between two groups)—General introduction to the program and what it proposes to do.
3. To Holy Land—*"Mr. Burnham, show us on globe*—how to go from Worcester to the Holy Land?" Mr. Burnham marks Worcester (yellow chalk)—draws line to Bethlehem.
4. *Dr. Van Valkenburg proceeds to map of Holy Land.* Dr. Warman asks him to give brief description of its position—What its location means with respect to its weather. Dr. Warman will ask one or two questions. One about snow in the Holy Land, another about attempts to have Christmas in Baghdad. Then on the cue question—"You also spent Christmas season in Java ———?" Dr. Warman refers again to Mr. Burnham.

5. To *Mr. Burnham* at Globe. "Can you get us from the Near East to the island of Java?"
6. To *World Map*—Dr. Warman and Dr. Van Valkenburg—"Here is Java. What was Christmas like there?"
7. Back to *Mr. Burnham at Globe* after cue remark about Dr. Murphy spending Christmas on Kusaie. While line is being drawn on globe, *Dr. Murphy takes place at World map*, and describes his experiences. At cue sentence, "But Mrs. Murphy was not with you," Camera goes back to
8. *Mr. Burnham* who draws line from *Kusaie to Hawaiian Island on Globe*. Mrs. Murphy in the meantime has taken position near World Map, beside Dr. Murphy. She describes her Christmas experience.
9. Cue sentence—"Let's get back to the mainland now, we'll move to Guatemala. *Mr. Burnham*, please get us there."
10. Dr. Higbee at *world map* describes the Christmas scenes in Guatemala and in the Amazon River Basin.
11. "Now *Mr. Burnham*—A long hop to Switzerland where Dr. Brunnschweiler and his wife wait for us."
12. "Dr. Brunnschweiler. What do you want us Americans to know about Christmas weather in Switzerland?"
13. "Mrs. Brunnschweiler, your native land is Latvia. How is the Christmas scene there?"
14. "We have our next to the last stop—Mr. Burnham here we go into Oslo, Norway. Dr. and Mrs. Lougee spent all last year there." (Dr. and Mrs. Lougee take positions near world map)
15. "Mrs. Lougee, what would you say is different about Christmas weather in Scandinavia from what we have here?" "Dr. Lougee, you had some impression of Christmas which I'd like you to share with us."
16. Warman, "Now back to the United States, where we celebrate along with peoples around the world the birth of Christ. Truly at this season the world is one."
17. Sign off—Identification slide. Landell.

In concluding this article about Television Techniques the author wishes to refer to one more program which should be included in a telecourse for credit. It should be one at which the students in the course meet the professor. Questions may be written in ahead of time. If there are some students willing, then the discussion period can be televised. If not, then informal discussion should be held off the air. This discussion period was the first time (after seventeen weeks) that the professor saw his students. On one other occasion he met them; they were required to come to the University to take the final examination. Results were highly satisfactory. What the general viewing public results were one will never know. However, since there is this unknown factor in the performance it will be well if the teaching profession does its absolutely best job. It requires labor, hard, but stimulating work, and hindsight which leads to forethought. And finally the author can truthfully say he had fun doing it.

RECENT MAPS OF INTEREST TO TEACHERS OF GEOGRAPHY: IV

MARIE CLECKNER GOODMAN
Library of Congress

This is the fourth in a series of articles on maps of special interest to teachers. The earlier articles appeared in the January 1952, March 1953, and December 1954 issues of the JOURNAL. All the maps reviewed are readily available to teachers thru map and book dealers in this country. Many of them may be consulted in some of the libraries listed in the directory, *Map Collections in the United States and Canada* (New York, Special Libraries Association, 1954).

WORLD MAPS

A new colored plastic relief model of the world is for sale by the Aero Service Corporation, Philadelphia. It was produced for "Dun and Bradstreet's International Markets" and copyrighted in 1955. It measures 21 by 34 inches, is lightweight and washable. The scale is approximately 1:47,520,000. Although it is not large, this model is suitable for display in the classroom. Its reasonable price places it within many school budgets.

Four recent maps may be useful in the study of projections:

The Great Circle Map Company of New York published in 1954 its *Azimuthal Great Circle Projection of the World Centered on N. Lat. 40°45'06", W. Long. 73°59'38", New York, N.Y.* Measuring 28 by 28 inches, this map is drawn on the scale 1:65,640,960.

Dymaxion Airocean World prepared by R. Buckminster Fuller and Shoji Sadao was published in 1954 by the Student Publications of the School of Design, North Carolina State College, Raleigh. This unique map is colored, measures 20 by 33 inches, and varies in scale from 1:47,500,000 to 1:57,000,000. A sheet of text explains the Fuller projection.

Two German maps on polar projections appeared in 1954. Dr. Carl Troll edited *Nördliche Erdhälfte* published by Flemmings Verlag, Hamburg. This map is colored and was issued in four sheets, each 36 by 34 inches. The scale is 1:12,500,000. As part of its colored Reliefkarte series Karl Wenschow G.M.B.H. published *Nord-und Südpolargebiete.* The overall dimensions are 59 by 68 inches, scale 1:10,000,000.

Since last noted the American Geographical Society of New York has published several additional plates in its *Atlas of Diseases*. Each sheet is colored, measures 23 by 36 inches, and contains extensive bibliographies on the verso: Plates 10-12. Distribution of rickettsial diseases. 1953. 1) Louseborne and flea-borne typhus. 2) Tickborne and mite-borne forms. 3) Tick and mite vectors. Scales vary. Plate 13. Explored areas of anthropod-borne viral infections (yellow fever and dengue excepted). 1954. 10 maps on one sheet. Areal scale of principal map 1:37,500,000. Plate 14. World distribution of leishmaniases. 1954. 6 maps on one sheet. Scale of main maps: 1:25,000,000 and 1:75,000,000.

Another series of distribution maps which merits attention is Rand McNally's set of six colored maps, 40 by 57 inches, drawn on Goode's homolosine equal area projection (ca. 1:22,800,000). Actually these wall maps are enlargements taken from a recent edition of *Goode's School Atlas*. Titles are *Climates of the Earth* by Glenn T. Trewartha; *Great Soil Groups* by A. C. Orvedal; *Natural Vegetation* by A. W. Kuchler; *Predominant Economies* and *Density of Population* by E. B. Epenshade, Jr.

One of the world's famous cartographic treasures was reproduced in 1954 by the Royal Geographical Society of London under the title, *The World Map by Richard of Haldingham in Hereford Cathedral, circa A. D. 1285*. It is the third in the Society's series, Reproductions of Early Manuscript Maps. The work consists of ten facsimile plates in a portfolio. In an accompanying memoir, G. R. Crone, librarian and map curator of the Society, describes the original map which is preserved in the Hereford Cathedral, saying that "it is the largest medieval 'mappa mundi' to have survived intact and is remarkable for its wealth of topographic and iconographic detail, in which the outlook of the later middle ages is reflected."

The cartographer, also known as Ricardus de Bello (fl. 1276-1312) was Prebendary of Lafford in Lincoln Cathedral. Haldingham was part of the Parish of Lafford. Later Richard was associated with the Hereford Cathedral.

This map is an example of an early cartographic work made available to students of geography and history by means of modern reproduction methods.

MAPS OF THE UNITED STATES

In October 1953 the U. S. Geological Survey published a map entitled *United States: Water Resources Development,* 1:2,500,000. It is colored and measures 48 by 78 inches overall when the two sheets are joined. It shows "flood control, irrigation, navigation, and power development activities" of the Corps of Engineers, Bonneville Power Administration, Bureau of Reclamation, and the Tennessee Valley Authority. Active authorized projects are distinguished from those completed or under construction. Four insets cover Alaska, Hawaii, major drainage areas, Puerto Rico, and the Virgin Islands.

United States Rural and Urban Population was produced in 1953 by Floyd A. Stilgenbauer, Department of Geography, Wayne University, Detroit, with the assistance of Dorothie M. Werden, Department of Geography, University of Colorado. No place names are used on this black and white map which represents population by dots and circles. The scale is 1:5,700,000 and the size 22 by 34 inches.

Among the maps issued in 1954 by the American Automobile Association was a *Graphic Elevation Chart of the United States,* scale 1:4,800,000. Elevation is plotted at right angles to the road. Solid green indicates elevation above sea level on north-south routes while solid red is used for east-west routes.

Fritz Publications Inc., Chicago, issued as a supplement to the December 1953 number of its magazine, *The Paper Industry, A Pulp and Paper Map—United States.* The dimensions of this map are 42 by 58 inches. Its scale is about 1:3,200,000. The boundaries of various forest areas are outlined. Yellow is used to denote "pulp-mill saturation areas." Three hundred sixty-two mills, listed in the margins with their production capacities are keyed to the map. Another table gives daily U. S. pulp and paper production capacities by regions.

A map useful in the study of economic geography was published by the Lake Superior Iron Ore Association of Cleveland in 1953 under the title *Flow Map Showing Movement of Lake Superior Iron Ores and of Eastern and Imported Ores with Locations of Consuming Furnaces for the year 1951.* The map covers the northeastern United States and shows the movement of ores by contrast-

ing colors. One marginal table locates consuming furnaces and names operating companies, another compares Lake Superior mine shipments by ranges. The map measures 22 by 30 inches and is drawn on a scale of about 1:2,700,000.

A three-dimensional effect created by shaded relief makes the *Topographic Map of the Pacific Coast States* by Jeppesen and Company, Denver, worthy of mention. It was prepared for the Columbia Pacific Radio Network in 1954. Tints used represent the natural ground-coloring. Bird's-eye views of six major cities are included in the margin. The sheet measures 28 by 22 inches and the scale is approximately 1:2,700,000.

In 1954 the Denoyer-Geppert Company, Chicago, published *Continental United States* as part of its Relief-Like series. The map is edited by Charles C. Colby. Relief is by the German firm, Karl Wenschow. The map which measures 39 by 62 inches (scale ca. 1:3,000,000) is reproduced in smaller format as the cover of the Denoyer-Geppert 1955 sales catalog.

The Tennessee Valley Authority, Knoxville, has available an attractive vacation map entitled *Recreation Areas on TVA Lakes* (1954, 10 by 21 inches, ca. 1:133,000). Many other maps designed to attract the tourist trade are distributed by various states agencies, the National Park Service and the U. S. Forest Service.

Maps of Individual States

Mary Eleanor Bridges is the author of *Arts of Alabama and Art Resources,* a map published by the Birmingham Branch of the American Association of University Women in 1954. The map is in color and measures 22 by 17 inches. Pictorial symbols locate art, music, garden and literary clubs, colleges, libraries, festivals, museums, theatres, and ante-bellum architecture.

Joseph E. Williams of Stanford University is the cartographer responsible for a map titled *California-Nevada* which was copyrighted in 1954 by John W. Gunter of San Francisco. Bright colors and shading are the features of this physical map which has no cultural overprint. It measures 45 by 38 inches on the scale 1:1,000,000. A 1955 edition is available with boundaries and place names.

The Idaho Department of Aeronautics, Boise, has available without charge *Your Skyway Map of Idaho.* It is an aeronautical over-

print on a colored relief map prepared by Jeppesen and Company, Denver. Sheet size is 33 by 21 inches, scale 1:1,000,000, with text on verso.

In 1954 the Indiana Department of Conservation revised its 1932 pictorial *Map of Indiana Showing its History, Points of Interest, and the Holdings of the Indiana Dept. of Conservation.* The color cartography is by Lee Carter. The size is 35 by 25 inches and the scale about 1:600,000.

In the past few years the Kentucky Agricultural and Industrial Development Board has been active in the map publishing field. Among its 1953 products are *Forest and Non-Forest Areas of Kentucky by Counties Showing Acreages and Percents of Total Land Areas* (11 by 20 inches; ca. 1:1,500,000) and *Land Areas of Kentucky and Their Potential for Use* (17 by 37 inches; ca. 1:750,000). Both maps are colored and available from the Board in Frankfort.

Several other official state maps merit attention. In August 1953 the Louisiana Geological Survey published in color the *Oil and Gas Map of Louisiana* (41 by 41 inches, 1:500,000). Areas of production, pipelines, refineries, and plants are shown. Likewise in 1953 the Ohio Department of Natural Resources, Division of Geological Survey, issued a colored *Mineral Industry Map of Ohio* (37 by 33 inches, 1:500,000). Coal, limestone, salt, gypsum, Portland cement, sand-stone, sand and gravel, shale and clay are shown. Numbers opposite the symbols are a key to the ownership which may be determined by consulting the Annual Coal and Non-Metallic Mineral Report of the Division of Mines for 1952.

The U. S. Geological Survey and the Oklahoma Geological Survey published jointly in 1954 a *Geologic Map of Oklahoma* by Hugh D. Miser with the collaboration of other geologists, oil companies, universities and other government agencies. The map is colored, measures 39 by 70 inches, and is drawn on the scale 1:500,000.

A Road Map of Philadelphia and Vicinity copyrighted in 1954 by the Keystone Automobile Club, Philadelphia, covers a large portion of eastern Pennsylvania, New Jersey, Maryland, Delaware, and part of metropolitan New York on the scale of 1:250,000. The sheet measures 38 by 36 inches and has an index on the verso as well as a map of *Philadelphia, Camden and Suburbs,* ca. 1:70,000. The road network is quite detailed.

Other American Maps

Three colored maps published in 1954 focused attention on Canada. The French Direction de la Documentation (14-16 rue Lord-Byron, Paris 8) published its "Carte 64" entitled *Canada, Régions Polaires et Extème-Nord Soviétique* (35 by 29 inches, 1:12,000,000). An inset shows an economic map of lower Canada 1:5,000,000.

The Canadian Department of Mines and Technical Surveys, Ottawa, issued the fourth edition of *Canada, Principal Mining Areas and Producing Mines* (30 by 36 inches, 1:7,603,200). The margin contains an index to principal productive mines.

A Geological Map of Newfoundland showing fifteen geologic formations, was issued by the Geological Survey, Mines Branch, Newfoundland Department of Mines and Resources, St. John's. The dimensions of the sheet are 34 by 29 inches and the scale 1:760,320. An inset gives geological map coverage.

Early in 1954 the Instituto Geografico de Costa Rica issued two colored maps, each 20 by 22 inches, scale about 1:775,000. The one, *Costa Rica Sistema de Telecommunicaciones,* shows the Meseta Central in an inset. The second, *Mapa de Costa Rica,* portrays relief by gradient tints.

Map of South America, copyrighted by Jeppesen and Company in 1954, is another in its natural-color map series. Shaded relief is used to give a three-dimensional effect. Colors show a natural representation of the various areas: greens indicate vegetation, yellow and browns indicate arid and desert areas, and white mountain peaks. The map is available without cultural overprint.

Maps of Europe

The National Geographic Society's map of *Northern Europe* (36 by 29 inches, 1:2,500,000), published in August 1954, covers Scandinavia, the Baltic States, Denmark, and parts of Russia, Poland and Germany. Insets show Northern Scotland, the Faeroes and the Shetland Islands.

The Justus Perthes firm, Darmstadt, recently made available two new European maps. *Westeuropa,* (1953, 1:2,000,000) is a physical wall map in the Haack-Painke series. Issued in four sheets, it measures 88 by 64 inches when mounted. *Wirtschaft Europas* (1954; 1:3,000,000) belongs to the Haack-Haefke series. It is an

economic wall map measuring 64 by 86 inches when the four sheets are joined.

G. Pfeifer and E. Gabriel prepared *Die Wirtschaftliche Nutzung Europas* which was published by Flemmings Verlag, Hamburg, in 1954. The four colored sheets form a map 67 by 82 inches. The scale is about 1:3,000,000. Marginal pie graphs show Europe's percentage of the total world production for 14 major minerals. A twelve-page "Erläuterungun" accompanys the map.

L'Electricité de France published in January 1954 *Reseaux de Transport d'Énergie Électrique de France* (colored, 32 by 38 inches, 1:1,250,000). Shown are power lines (existing, under construction, and projected) plus generating plans and substations.

Paul Lippa Verlag (Berlin-Charlottenburg 9) published in 1954 as part of its Wirtschafts-Geographischer Wandatlas von Deutschland a map entitled *Industrie-Karte der Bundesrepublik Deutschland und sowjetischen Besatzungszone* (2 sheets, 66 by 47 inches when mounted, 1:600,000). Nineteen industries are shown by colors and symbols.

Karl-Otto Gassdorf Verlag, Darmstadt, has available an attractive colored pictorial map entitled *Deutsche Bildkarte*. Teil I appeared in 1954. The size is 34 by 48 inches and the scale 1:800,000.

The Ordnance Survey of Great Britain has issued a number of recent maps on population. Among them is *Population Changes by Migration, Scotland 1938-47. England and Wales 1939-47* (2 sheets, 64 by 40 inches when joined; 1:650,000).

In 1953 the Norges Geologiske Undersokelse issued a colored geologic map of Norway which shows 62 formations. Its title is *Beggrunnskart over Norge* by O. Holtedahl and J. A. Dons. The scale is 1:1,000,000 and the size 45 by 29 inches.

In 1953 in honor of the 700th anniversary of Stockholm the Generalstabens Litografiska Anstalt published in collaboration with the Stockholm Stadmuseum a colored facsimile of a 1753 plan entitled *General Chart Ofwer Stockholm med Malmarne med Kongl. Maijt Alldranadigfte Privilegio Upsatt of Petrus Tillaeus Stads Ingenieur* (28 by 34 inches).

ASIAN MAPS

Pakistan, Ceylon and Burma is the title of a colored map pub-

lished by Geographia, Ltd., London, in 1954. Measuring 30 by 40 inches, the map is drawn on the scale 1:5,250,000.

The Indian Bureau of Commercial Intelligence and Statistics, Bombay, recently published a colored map bearing the title *Important Towns in India* (30 by 40 inches, ca. 1:4,345,120). Pakistan is included. Marginal tables list towns alphabetically under province and include figures on population, production other than cultivation, commerce, transport, services, agricultural classes, and languages spoken chiefly. The statistics are based on the 1951 census of India.

The Japanese Geological Survey, Tokyo, published in 1953 a *Geological Map of Japan* which distinguishes 17 formations by color and symbol. The size is 29 by 24 inches and the scale 1:3,000,000.

Israel, Economic Map was copyrighted recently by Tour, Ltd., Ramat-Gan. It is colored and measures 26 by 19 inches. No scale is indicated.

In 1953 the United Nations issued *Korea, Historical Map.* It measures 10 by 7 inches and is identified as map no. 515.

The Malaya Survey Dept., Kuala Lumpur, published in 1953 *Malaya Land Utilization Map.* Printed in color, the sheet is 35 by 27 inches on the scale 1:760,000.

A general map of *Asia* suitable for classroom use was published in a 1954 edition by Denoyer-Geppert Company. Edited by Shannon McCune and John A. Morrison, this colored map measures 70 by 62 inches, scale 1:6,300,000. It is identified as map S3rp.

Maps of Africa

The National Geographic Society copyrighted in 1954 a colored map of *Northern Africa* (29 by 41 inches; 1:7,500,000). Insets show the eastern Mediterranean, the Great Rift Valley, Nile Delta and the Suez Canal. An accompanying index lists 9,019 place names.

The Belgian Ministère des Colonies printed in 1954 a colored map entitled *Territoire du Ruanda-Urundi* (37 by 25 inches, 1:500,000). Internal boundaries, roads, railroads, settlements and missions are shown. Relief is indicated by contours. In 1953 the Ministère issued a similar map entitled *Congo Belge—Belgisch Kongo* (37 by 30 inches, 1:3,000,000).

In 1954 the Parisian firm Blondel la Rougery issued *Carte Routière Algérie et Afrique du Nord* which was prepared in coop-

eration with General Drafting Company and Esso Standard Algérie. Six colored maps with varying scales are printed on the sheet which measures 17 by 28 inches.

The French Direction de la Documentation published *Carte Agricole de l'Afrique Occidental Française* (26 by 35 inches, 1:500,000) as number 63 in its current series. Number 59 is *Cameroun et Togo—Productions Agricoles* (29 by 21 inches, 1:2,000,000). These maps and other publications are listed in catalogs and may be obtained by addressing 16 rue Lord Byron, Paris VIII.

Geological Map of East Africa, 1952 is the title of a map prepared on behalf of the Inter-Territorial Geological Conference. Compiled and drawn in the Geological Survey Dept., Dodoma, Tanganyika, from information supplied by the Geological Surveys of Kenya, Uganda and Tanganyika, the map was reproduced by the Dept. of Lands and Surveys, Dar es Salaam, in 1954. It measures 41 by 29 inches and is on the scale 1:2,000,000.

The National Resources Development Council is the authority responsible for *Population Distribution Map of the Union of South Africa, 1951.* The map was financed by the National Council for Social Research and prepared for reproduction by the Trigonometrical Survey Office, Pretoria, in 1954. The two colored sheets measure 43 by 54 inches when joined. The scale is 1:1,500,000. "Europeans, Coloureds, Asiatics, and Natives" are distinguished.

POPULATION DISTRIBUTION IN MEXICO—1950

ARTHUR DOERR AND LUIS FREILE
University of Oklahoma

Mexico's population has more than doubled in the past fifty-five years, and presently is increasing at an increasing rate.[1] Barring unforeseen circumstances, governmental stability, a diminishing death rate, and a greater life expectancy when coupled with a high birth rate insure a rising population trend for the next several decades. In the face of an increasing population a graphic inven-

[1] Since the first reliable census of Mexican population was made in 1950, this statement should be modified somewhat. Indeed this study was prompted by the realization that the Census of 1950 provided the first reliable data for a reasonably precise study of population distribution in Mexico.

tory of present population distribution seems singularly appropriate. Areas of sparse population are readily apparent, and the paucity of people in certain regions may suggest obvious areas for population expansion.

The present population of about 26,000,000 is so unevenly distributed thruout the country that the gross density figure of 13.10

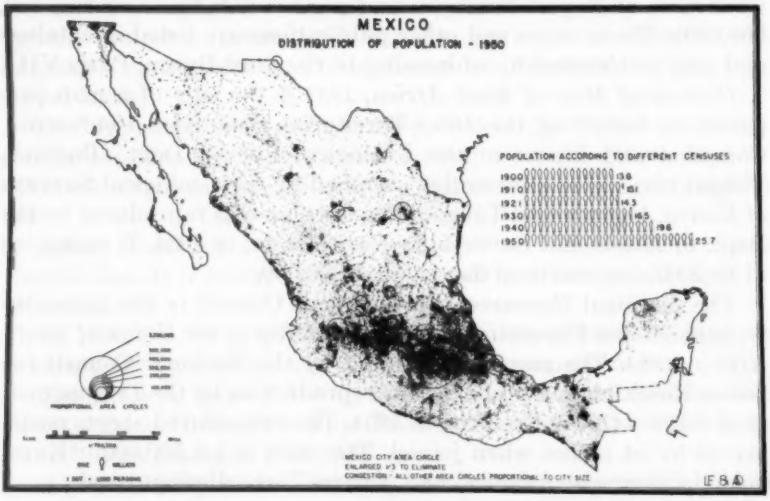


Fig. 1. Distribution of population in Mexico for 1950. Original civil divisions map courtesy of Oficina de Graficas, Departmento Tecnico, Direccion General de Estadistica, Mexico, D.F. Population distribution plotted by Arthur H. Doerr and Luis Freile.

per square kilometer has little practical value.[2] Hence it is the purpose of this study to: 1) provide an accurate dot map of population distribution, 2) call attention to areas of concentrated settlement, and to account for, in a general way, these settlement concentrations, and 3) suggest possible solutions to an existing and increasing population problem.

Population Concentrations

The greatest concentration of population in Mexico lies within a polygon bounded by Vera Cruz, Orizaba, Toluca, Guadalajara, Aguascalientes, San Luis Potosí, and Tampico (Figs. 1 and 2). This

[2] Population data used in this paper were obtained from *Septimo Censo General de Poblacion, Resumen General* (6 de Junio de 1950), Secretaria de Economia, Direccion General de Estadistica, Mexico, D.F., 1953 unless otherwise noted.

area has probably been the most densely settled since the ascendancy of Nahua tribes; certainly most of the people have lived in this region since the coming of the Spaniards. No single explanation suffices to account for this concentration of people. Indeed it is an extremely complex problem to ascertain the factors which have contributed to the heavy concentration of population in the central portion of Mexico.

Physiographically the area within the previously described polygon is heterogeneous. Rugged mountains, intermontane basins, and coastal plains are all conspicuous features of the terrain (Fig. 3). Vegetation, climate, and soil are equally complex. No aspect of

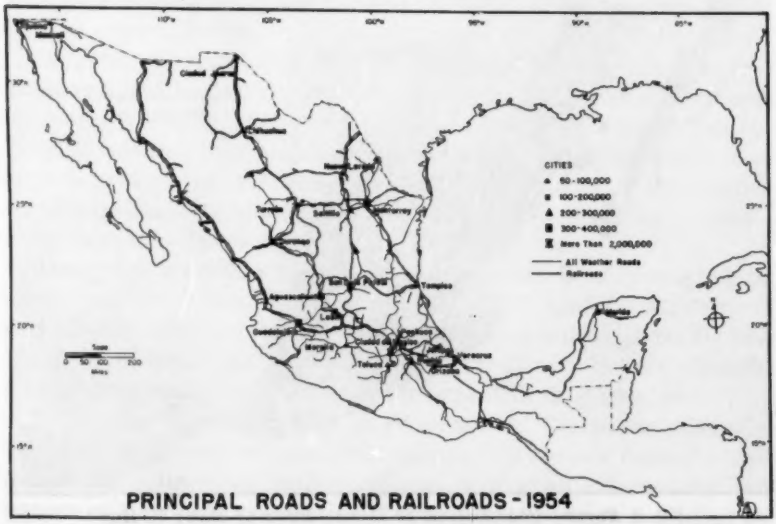


FIG. 2. Principal roads and railroads of Mexico in 1954. Data for map obtained from Mexican Tourist Bureau and Direccion General de Estadistica.

the physical environment unifies the corporate whole. The area outlined is conspicuous because of the density of rural and urban settlement. Obviously this area is not settled with the same intensity thruout. Most people live in intermontane basins, river valleys, or in the coastal strip. In short, level land is at a premium. It is safe to say, however, that the dense rural population of this region may be attributed to long settlement, salubrious climate (particularly in the upland basins) and adequate agricultural opportunities.

Urban centers have developed in response to a variety of service needs, manufactural possibilities, historical accidents, and administrative needs.[3]

Other population clusters include a series of semi-isolated nuclei along the Mexican-United States border, northern Yucatan, irrigated, mineralized, and manufacturing districts of the north and northeast, discontinuous settlements along the Pacific margin, and outlying concentrations in Oaxaca (south of the central polygon) and in Chiapas near the Guatemalan border (Fig. 1). Obviously a

Fig. 3. Physiographic diagram of Mexico drawn by Harry E. Hoy and used with his permission.

variety of factors have influenced population growth in these widespread geographic areas.

Along the Mexican-United States border settlements like Ciudad Juarez, Tijuana, Nuevo Laredo, and Matamoros gained much of their original impetus due to their dual gateway—"city of sin" function. Improved and increased irrigation facilities have re-

[3] A brief description of primary factors responsible for urban concentrations of cities with a population in excess of 200,000 is to be found in a subsequent section of this study.

sulted in expanding rural settlement near the delta of the Colorado and in the middle and lower Rio Grande valley. Future settlement possibilities are contingent upon expansion of irrigation and increased availability of the *yanqui* tourist dollar.

Northern Yucatan owes its population concentration to a long history of settlement dating from days of Maya dominance, concentration of production of sisal and henequén, and more recently to servicing an expanding tourist industry. Possibilities of settlement expansion appear meager, because of a hostile physical environment.

Isolated population concentrations of northern Mexico such as those encountered around Torreón, Saltillo, Monterrey, and Chihuahua are related to irrigation schemes in the case of Torreón and Chihuahua. Monterrey, on the other hand, is a significant industrial, rail and highway center. Saltillo is a significant mining and agricultural center. Other nodes of population in the north are related to mineral production or localized availability of water. Except in urban areas settlement possibilities are limited by a harsh environment. Expansion of irrigation facilities offers some possibility for an increasing population.

Along the Pacific margin rural settlement is encountered in stream valleys and other small patches of flat land. Urban centers are tourist oriented like Acapulco or service-fishing ports like Manzanillo, Mazatlan, San Blas or Topolobampo. Severe climatic restrictions should limit further settlement in this area.

Population concentrations in Chiapas and Oaxaca are largely restricted to deeply incised river valleys or a narrow coastal strip. Longtime indigenous Indian cultures are little affected by the veneer of European civilization. Population expansion is limited by the availability of level land.

Major Urban Centers

It is obviously impractical in a study of this size to analyze adequately the structure and function of even the major cities of Mexico. It is possible, however, to recount the paramount factors which are responsible for some of the major urban concentrations.

Mexico has twenty-four cities with a population over 50,000, and ten of these have a population in excess of 100,000. Four large urban centers have a population of 200,000 or more (Table 1). The latter four will be given brief special treatment.

Mexico City (Ciudad de Mexico) is the premier city of the entire republic with a population in excess of 2,000,000. A combination of factors have contributed to Mexico City's past growth, and no doubt will contribute to a projected future growth. To illustrate: 1) Mexico City has been the center of political and cultural life of Mexico since the ascendancy of Tenotchitlan during the Aztec expansion. 2) Mexico City has become a significant industrial and commercial center with industries of practically every description either within or adjacent to the city, and commercial facilities from the simplest

TABLE 1

URBAN CENTERS WITH A POPULATION IN EXCESS OF 50,000[1]

City[2]	*Population*
Aguascalientes	93,358
Mexicali	64,609
Tijuana	59,952
Saltillo	69,869
Torreón	128,976
Chihuahua	86,961
Ciudad Juárez	122,566
Ciudad de México	2,234,795
Gustavo A. Madero	59,391
Victoria de Durango	59,407
León	122,646
Pachuca de Soto	58,650
Guadalajara	377,928
Toluca de Lerdo	52,968
Morelia	63,245
Monterrey	333,422
Puebla de Zaragoza	211,203
San Luis Potosí	125,557
Nuevo Laredo	57,669
Tampico	94,219
Jalapa Enríquez	51,166
Orizaba	55,531
Veracruz Llave	101,515
Mérida	142,838

to the most complex. 3) Tourism is of increasing significance, since the goal of every *yanqui* is the capital of the republic. 4) Mexico City is the trade center for the productive central basin of Mexico. These factors coupled with reasonably easy access by road, rail, or air have combined to make Mexico City one of the important urban centers of the world.

The next largest city, Guadalajara, has a population somewhat less than 400,000. Guadalajara, like Mexico City, occupies a highland basin and is the center of a dense agricultural settlement. In

[1] Data for this table obtained from *Compendio Estadistico, 1952,* Direccion General de Estadistica, Secretaria de Economia, Mexico, D.F., 1953, pp. 37-38.

[2] The Mexican name is given for each city, while in Fig. 2, the common English name is used.

addition, a variety of manufacturing enterprises, mining activities, tourism, and the benefit of an early start have contributed to its present impressive size.

Monterrey, third in size, is a significant manufacturing city with industries which run the gamut from breweries to iron and steel. Further, Monterrey is the focal point for mining activities, ranching, and agriculture of the northeast. It is an important rail and road hub, and a steady stream of tourists pass thru Monterrey on the Pan-American Highway.

Puebla, the only other Mexican City with a population in excess of 200,000, occupies a dominant position in a fertile highland basin. In addition, Puebla is a noteworthy manufacturer of textiles, pottery, and ceramics.

For the remaining cities in Table 1 a diverse list of factors has been responsible for their growth. To illustrate, Tampico and Vera Cruz are important Gulf ports, Gustavo A. Madero is a residential suburb of Mexico City, San Luis Potosí is a silver center and a manufacturing area, and Torreón is the center of a cotton growing region, a manufacturer of textiles, a smelting city, and it has mines nearby.

It is not surprising to note the variety of factors responsible for Mexican city growth, but some facets of the Mexican urban-rural scene are peculiar. For example, the authors were somewhat surprised to discover that Mexico is almost 43 per cent urban. Mexico has been regarded as a rural country for so long that it is somewhat startling to note that almost half of the Mexicans live in urban centers. Yet Mexico appears to be reflecting the same urbanization trend noted in the United States. Admittedly urbanization in Mexico is progressing at a slower pace, but the trend away from the farms is still apparent.

TRANSPORTATION

The rail and highway network of Mexico have had much less influence on population concentration than in the United States. It is true that the densest network of roads and railroads is to be found in the densely populated central region of Mexico (Figs. 1 and 2). It must be remembered, however, that the roads and railroads were built after settlement was completed. With few exceptions (notably mineralized areas) there are no examples of population following a railroad and concentrating adjacent to it, as has

been the case in much of the western part of the United States. In Mexico, for the most part, population clusters are historical hangovers dating from pre-conquest days. If a road or railroad was built thru a town it may appear that the town is rail-oriented. Such is not the case. Unless the city was a large one, or a rich one, or both, it found itself situated on a rail or road right of way primarily because it happened to lie on the easiest route between the terminals. In short, ribbons of steel or asphalt did not project Mexican settlement into the frontier. Any attempt to correlate population concentration and the transportation network as of 1955 is a mistake. Where road and rail nets tighten and appear to correlate with population density it is probably incidental, since the rail system, at least, was not built to serve the population, but rather to serve the financial interests of the railroad builders. The embryonic road net is apparently being built with greater cognizance of the needs of the populace.

CONCLUSIONS

Several facts are clear from an examination of Mexican census data in tabular and graphic form: 1) Mexico's population is increasing at an increasing rate. 2) There is an urbanization trend. 3) Population concentrations are separated by wide expanses of sparsely peopled land. Additional facts can be deduced from even a perfunctory knowledge of geographic conditions in Mexico: 1) The best areas of Mexico are settled and have been for hundreds of years. 2) Physical conditions restrict expansion into "empty" areas. 3) Mexico will probably be unable to attain a high standard of living unless its population is stabilized or reduced. Suggested solutions to the population problem follow: 1) Permanent, not temporary, emigration to the United States, Brazil, or Canada. 2) An enlarged industrial potential to supply jobs to additional people. 3) An increase in irrigation facilities should be attempted in a series of government projects.[6] 4) A birth control program aimed at stabilizing or reducing the population should be implemented.

[6] The government is presently involved in several irrigation and hydroelectric schemes, which should afford expanded settlement possibilities.

PHOTOGRAPHY FOR THE GEOGRAPHY TEACHER

ALAN K. THOMAS AND H. F. RAUP
Kent State University

Teachers of geography are particularly interested in using visual aids in their classes. To an increasing extent they depend upon their own skill at photography to provide the necessary visual material. There are many, however, who are so unfamiliar with simple photographic procedures that they hesitate to make the attempt. It is hoped that the suggestions provided in this short article will serve to encourage the geography teacher to liven the subject with photographs that have been taken in person. Students whose attention lags inevitably respond well to the teacher who says, "I've been there, and this is what I saw."

The teacher should cultivate a special attitude toward photography, since the subject matter of the geography classroom calls for certain considerations which can be summarized briefly.

1. If possible, the pictures should be shown in color, in order to approximate the actual appearance of the geographic feature portrayed by the film.
2. The still photograph is most satisfying, since it gives the teacher sufficient time in which to add the "audio" aspects to the "visual."
3. The photograph should be of high quality. In this era of superior photography, it is a mistake to use inferior photographs in the classroom, when the students can find first-class professional photography in cheap magazines.
4. Avoid showing "pretty pictures."
5. Each slide that is used should have a center of geographic interest. If two geographic themes are posed together, photograph each subject separately and then show the slides in sequence.
6. When an accompanying lecture is used, avoid introducing the slide with the trite comment, "This picture shows . . . ," or "This is. . . ." The oral presentation should be as carefuly organized as the set of slides.

The geographer who invades the field of photography will find color slides on 35mm. film the most useful, and these are relatively inexpensive. These little color transparencies can be put to many practical uses. They can be shown in the classroom with an ac-

companying lecture, permitting an entire class to see the pictures at one time. These pictures have proved to be much more satisfactory than black and white pictures which are passed around the class. Prints can also be made from color slides, altho they can run into money if one wishes to have many prints made. For the teacher, the lecturer, or the geographer, color slides are the best type of picture one can take. Furthermore, they pose no serious problem of film storage.

Black and white prints, however, are best for publication purposes. They are less expensive than color prints and all editors will accept black and white prints, while many will not accept color pictures for publication.

"What about movies?" For amateurs the answer is always negative. Why? First, the amateur does not use enough time to take the scene and consequently many important details are missed in a hurried-up shot with a movie camera. Second, the teacher's lecture does not always follow the topic on the screen and the movie rolls along, leaving undescribed portions of the film. The picture is ineffective unless it is explained. Sound movies are valuable, but they are too expensive for most professional geographers who are just amateurs in the field of photography.

After the selection of the camera, the type of film to be used should be considered. Many types of film are available, both in color and in black and white, and for all types and sizes of cameras. For color, Kodachrome is most satisfactory. It gives the best color balance for outdoor photography. It is blue, picks up sky reflection better, and brings out a natural blue tone in the shadowed areas. Ektachrome film is a warmer-hued film producing a sky color with more reds. Shadowed areas also are warm in tone. This coloring is unnatural except for portrait shots where the flesh tone needs a warm, live appearance. In general, an underexposed color film is superior to over exposure.

For black and white the most satisfactory film is the panchromatic type. This film is sensitive to all colors, rendering natural hues on the film from white thru shades of grey to black. Great detail can be shown, tho dramatic effect is reduced. Orthochromatic film is available in black and white. This film is not sensitive to all colors and will render the natural reds in coal black, showing little detail in shadows. For the geographer, this film is less satisfactory than panchromatic film. One will find many makes of panchromatic

film on the market. One's choice should be governed by the speed of the film. Film is classified by speeds and since speed is important in some pictures, Kodak Super XX or Ansco Super Pan Press can be recommended. Both films are high in speed and give fine reproductions. The use of a K-2 yellow filter may give improved results in black and white photography, since this filter will darken the appearance of the sky and bring out interesting cloud formations.

Taking a picture is an art, and even in geographical photography, one should try to be as artistic as possible. The first task in shooting a picture is to make it tell a story. To do this it is necessary to include just those items pertaining to the desired subject. Unrelated items distract the attention. One main subject in such a picture is desirable.

One of the greatest mistakes of an amateur photographer is to use too little film on a subject. He tends to shoot one overall picture and let it go at that. Altho it is very desirable to have a picture of the entire subject, a complete story cannot be told by one picture. Close-up shots of different parts, plus a few pictures of the whole subject taken from different angles have proved to be a most satisfactory procedure. A few pictures of the entire operation of threshing may be very good, but they will leave much to be desired. After some general pictures have been taken, there should be a series of close-ups showing each separate operation. Many amateurs have a tendency to include too much foreground in panorama shots. Unless there is a subject of some interest in the foreground, distance shots are more pleasing if the sky is emphasized.

In any picture, whether in geographic or in art photography, the theme should not be placed in the exact center. This produces bad balance and poor composition. Professional photographers insist on placing the subject at one side with the front of the theme facing into the center of the picture.

Lighting in any picture is a great problem, and particularly in geographic photography. In the field, the sun is the main light source. Tho sunlight is best for photography it does present some difficulties. The sun should be at the photographer's back or at the side, but in the field this is very difficult to achieve, since often the photographer cannot move his position so that the light will come from behind or from one side. Shooting into the sun distorts color and places a grey cast on black and white pictures. Here one should use a sun shade on the lens to help prevent distortion. Always take

the picture, even tho the quality of light may be inferior. It is better to have a picture a little distorted than to have no picture at all. One of the best ways to emphasize the theme is to direct the greatest amount of light upon it. The best way to do this is to move around until the greatest amount of light is focused on the central theme. If artificial light is used, then the lights themselves can be moved to suit the taste of the photographer.

One of the amateur photographer's problems is the focus of his picture. In geographical photography we need to get as much of the scene in focus as possible. This can only be achieved by setting the focus on what the photographer calls the hyperfocal distance. In essence this means to focus three-quarters of the way into the picture. Thus the photographer attains good focus in the foreground, while the background remains very sharp. Another way to get the same result is to shoot the picture as slowly as possible. If the object to be taken is in motion then this method cannot be used, but if the object is stationary this method proves very effective. Place the camera on a tripod and shoot the picture about 1/5 or 1/2 second. If the lens is stopped to a small aperture one will find that the entire picture is in a sharp focal range. This method is used by many photographers.

"Haste makes waste," is an old proverb that surely holds true in photography. Take your time to be sure all camera adjustments are made properly. This will insure better pictures.

There are occasions when pictures are not permitted. The photographer may be unable to get near or far from his subject. This problem can be solved only by a wide-angle lens or a telephoto lens. These accessories are expensive, and while it is desirable to have these lenses in geographic photography, they are not essential for the amateur. Consult your dealer for information on these lenses and other equipment pertaining to photography.

No geography teacher need hesitate to undertake simple photography, using the instructions that are supplied with modern cameras. There is a certain routine to remember: (1) Gauge the amount of light needed (preferably by the means of a lightmeter, tho this is not essential), and set the shutter opening according to directions in relation to (2) the speed selected for the shot. Then (3) center the object in the view-finder and (4) adjust the mechanism to get correct focus. Then (5) trip the shutter and (6) wind to the next film. After shooting a single roll of film and experienc-

ing the satisfaction of displaying one's own photographs during the instruction period, the enthusiastic geography teacher will discover that photography can be nearly as useful a teaching tool as our older device—the map.

A UNIQUE STUDY OF CITIES

ABRAHAM RESNICK
Roosevelt Junior High School, New Brunswick, New Jersey

Junior High School age youngsters seem to possess an unusual desire to explore and discover. Perhaps it was this searching curiosity which motivated two 7th grade geography classes at Roosevelt Junior High School, New Brunswick, New Jersey, to undertake a unique study.

Under my direction sixty students in two classes began a thoro study of New Brunswick. The community is ordinarily studied early in the course. Among other objectives this enabled certain patterns of study to be established that might be used as a point of departure for subsequent study of the state and nation. A teacher-pupil planned outline was distributed to each student with the assignment of collecting as much current data as possible about the city. Students were encouraged to visit the local newspaper plant, radio station, municipal buildings, and the city and Rutgers University libraries. The information obtained was studied and discussed for two weeks. Much of the information was mapped on mimeographed outline maps drawn to scale from the city map. The individual and group research as well as after school treks to the various sources of information seemed to arouse a keen interest in the community. The novelty of searching for information away from school, without relying on conventional methods aided in stimulating the discussion, mapping and research.

It was not surprising to discover that during the presentation of the material on New Brunswick a number of curious students wondered how our city compared with other cities of similar size in the nation. This concern in a comparative study by the youngsters conforms to typical interest behaviors of the 11-15 year age group.

The class became very anxious to follow up on the discussion by learning how New Brunswick rated. Were the praises of the community justified? Were the criticisms valid? How might we really find out?

The solution was suggested by the class. Why not write to other classes in cities thruout the United States comparable to New Brunswick, and request that they submit the same type of information we followed in our outline guide. The idea was accepted and the two classes set out to establish committees and distribute the work of the project. One group listed all cities of 25,000 to 45,000 population in the country. Another drew up and duplicated questionnaires. The questionnaire was based on information learned in the New Brunswick survey and contained 48 questions. The pertinent facts sought related to the city's characteristics, location, population, climate, landscape, altitude, settlement, religious and ethnic groups, industrial and commercial establishments, communication systems, municipal services, and government.

A third committee assumed the responsibility for composing letters explaining the project. One was addressed to the Principal of the Junior High School of a particular city, and one to the social studies or geography class. A letter accompanied the questionnaire. Letters were sent to 144 cities in the general population classification 25,000 to 45,000. Some students addressed and mailed letters. Others kept records and arranged mathematical procedure. To take care of the statistical work, the school adding machine was obtained and used. Another group was responsible for mapping the responses by placing a large United States political map on fibre board material and made pin flags to account for all junior high schools answering the questionnaire. Some students agreed to take on the job of sending results of the national survey to schools that forwarded information. Thank you letters were enclosed as an additional project for these people. Much of the work was done as an extra assignment by interested students after school and during lunch and study periods.

Within three months of the mailing of the questionnaires, answers were received from 48 cities representing 23 different states ranging from the Atlantic Ocean to the Pacific Ocean, and from the Canadian border to the Gulf of Mexico. The Roosevelt Junior High School students then made a composite picture of the typical American city of this size and contrasted it question by question

with New Brunswick. The typical city was referred to as "Mythical City." Many encouraging and enthusiastic letters were enclosed with the returned data. One 7th grade West Hartford, Connecticut class prepared a special booklet about their city for the New Brunswick students.

The 60 youngsters of the two classes making the comparative survey discovered that their city had a number of distinct advantages over 48 other cities of comparable size in the nation. They concluded that they really had something to "crow about" and that their city was a pretty good place to live in.

New Brunswick rated superior to the other cities in its proximity to a large metropolis and bodies of both fresh and salt water. This city also has more leading industries, factories, wholesale establishments, retail stores, policemen and firemen than the average of all the cities, according to the survey.

The survey showed New Brunswick only 35 miles from a metropolitan area, in contrast to the 144 mile average distance for all cities.

The survey also showed this city on the bank of a river, four miles from the nearest lake and 20 miles from the ocean, in comparison to the overall average for American cities of this size of 10½ miles from a river, 27.4 miles from a lake and 427 miles from an ocean.

New Brunswick was credited in the survey with 18 leading industries, 107 factories, 88 wholesale establishments and 838 retail stores. The averages for the cities of comparable size, in contrast were: Nine leading industries, 78 factories, 37 wholesale establishments and 506 retail stores.

The students' survey also showed New Brunswick has 72 policemen in comparison to 60 in the average American city of similar size. New Brunswick has 74 firemen in contrast to 66 in the average city, according to the survey.

New Brunswick was cited in the survey as a more diverse community than the average city in the United States in the same 25,000 to 45,000 population range. The survey described this city as residential, industrial, collegiate and a military center. The other cities broke down into one-type classifications in the following order of popularity: Residential, industrial, agricultural, college and military. This community was one of 23 described as having a slum clearance program. Nineteen of the cities lacked such a program.

This city also showed a number of similar characteristics to the average American city of like size. The average 53° temperature listed for New Brunswick compares with a 53.2° temperature for the average city. This city has one daily newspaper contrasted to 1.3 for the average city. It also has 5,215 public school pupils and 265 teachers in comparison to 6,309 pupils and 281 teachers for the average city.

Both New Brunswick and the mythical average city are in nearly the same latitude and vary only 10° in longitude. This city is in 41° north latitude and 75° west longitude, contrasted to 41.9° north latitude and 85° west longitude for the average city.

Both the local community and the average city also underwent similar population growths, according to the survey. New Brunswick's population of 33,180 persons in 1940 had grown to 38,811 in 1950 and now stands at 41,000. In the average city of the survey the population was 33,094 in 1940, 37,706 in 1950 and is 42,030 now.

The students found one disturbing contrast between their own city and the composite city, however. This was the population density, which stood at a high of 7,610 persons per square mile here in 1950, in contrast to 2,923 persons per square mile in the mythical city in the same year of the last census. The explanation is found in the contrasting areas of the two cities. For New Brunswick consists of 5.1 square miles, compared to 13 square miles for the average city.

One sharp geographic contrast was found between this community and the mythical average American city of like size. New Brunswick's altitude was cited as 100 feet. In contrast, the average city of the survey has an altitude of 643.9.

New Brunswick also was found to have a different form of government than the average city. The local commission form of government, in fact, had been adopted in only three other similar-sized cities. The mayor-council form of government predominated and was reported for the average city.

The project was acclaimed by the local press and was received most favorably by teachers and supervisors. Five boys reported on the findings to the New Jersey Council of Geography Teachers Meeting at the 34th Secondary School Conference which met at Rutgers University in May.

MISTLETOE MYTH DEVELOPS INDUSTRY

FAYE C. GRIFFIS
Weatherford, Texas

The slaying of the Scandinavian god, Balder, by Blind Hogar is a fascinating myth to some scholars, but to the people of Mills County, Texas, it is good business and money in the bank. Mistletoe, the only weapon to which Balder, the Beautiful, was vulnerable, is a quick, easy crop, bringing over $30,000 in three weeks' picking to adults and children of the Goldthwaite and Priddy communities of Northeastern Mills County.[1]

MYTHOLOGICAL BACKGROUND

The mistletoe myth dates beyond 500 B.C. Balder (often Baldur) was to the Scandinavians a symbol of all things good and beautiful. He was a favorite of his mother and all the other gods. His dream that he was dead brought him great fear. His mother, Frigga, and his wife, Nanna, traveled the world and secured the promise of every person and everything not to harm the adored Balder. To celebrate these promises, the friends of the god danced in a great festival to prove to him his dream was not an omen. But Loki, an evil god, learned that the useless mistletoe had not been asked to promise protection to Balder. While all the people threw sticks and stones at Balder to show him nothing could harm him, Loki whittled a tiny arrow of the mistletoe branch. This he gave to Blind Hogar, who, in his joy over the invulnerableness of his god, threw the arrow at Balder. It struck him in the heart.[2]

HISTORICAL BACKGROUND

The Druids, Celtic priests of Gaul, deemed "the mistletoe sacred, especially if grown on an oak tree,"[3] and their meetings were held under these lucky oaks, which they blessed with rituals and ceremonies.

Searching for charms of good fortune and happiness, the peasants in 16th and 17th Century England used the green mistletoe

[1] Verified by W. P. Duren of Mills County State Bank, Goldthwaite, Texas.

[2] Joanna Strong and Tom B. Leonard, *A Treasury of the World's Great Myths and Legends*. Hart Publishing Company, New York, 1951.

[3] *Compton's Pictured Encyclopedia*. S. E. Compton Co., Chicago, Vol. C (1954), p. 163.

branches to decorate doorways and houses at Christmas time. The custom of using evergreens for festive decorations at Christmas spread over northern Europe, and the mistletoe became a favorite due to its legend and its accessibility.

The idea was brought into the New World and the tradition of "getting caught under the mistletoe and paying with a kiss" caused more demands for the lucky greenery.

And that is where the small, timbered area of Mills County, Texas, fits into the progress of mistletoe as a quick cash crop.

Location

The industry is located in two Texas counties, Mills and Williamson.[4] The rolling, wooded section between the Priddy and Goldthwaite communities of Mills County produces most of the commercial mistletoe for the 734 square mile county of Mills. It is part of the North Central Plain Landform Region of Texas,[5] and is at the junction of Grand Prairie and Edwards Plateau in Central Texas.

Harvesting

In the short season between Thanksgiving and December 20th, the mistletoe sheds are open, and bankers, housewives, school children and merchants swarm into the wooded areas, usually their own ranches, to gather the new green parasites from the mesquite and oak trees.

The converging point for Mills County was a large shed, and the scene for the three-week period was reminiscent of the old cotton gins where long queues of wagons waited to unload. Instead of wagons, the 1955 Christmas foliage was brought to market by pickup trucks, jeeps, station wagons and Cadillacs, which waited as long as two to three hours to have their pickings graded. (There are only two grades, *i.e.* good and bad.) The crop was picked by farmers for quick cash, and by children and their parents for Christmas pocket money and a Sunday afternoon sport.

The 1955 harvest was a short crop due to drought conditions of the Central Plains Region, but the shed remained open and at work from daylight to 10 P.M., employing over 55 local workers in the

[4] The *Texas Almanac*, 1956, p. 717, published by The Dallas Morning News, lists mistletoe under Williamson County only.

[5] Elton M. Scott, *Texas Geography*, Harlow Publishing Company, Oklahoma City, Oklahoma, 1953. Map 4, p. 11.

weighing, packaging and shipping processes. At a price of seven cents a pound, the heavy shrubby plant brought at least $30,000 profit and brief employment at an otherwise dull time in the ranch country.

The young, firm leaves and berries which were bought in Mills County and flown to the northern and eastern sections of the country accounted for the crop profits. Old and crushed portions of the mistletoe, rejected as "poor" grade, were discarded and used by some ranchers as sheep and cattle feed.

THE MISTLETOE PLANT

The mistletoe is a member of the Phoradendron family with 100 species. American mistletoe is found in 10 varieties, the Phoradendron flavescens being the most common. It is "a parasitic plant

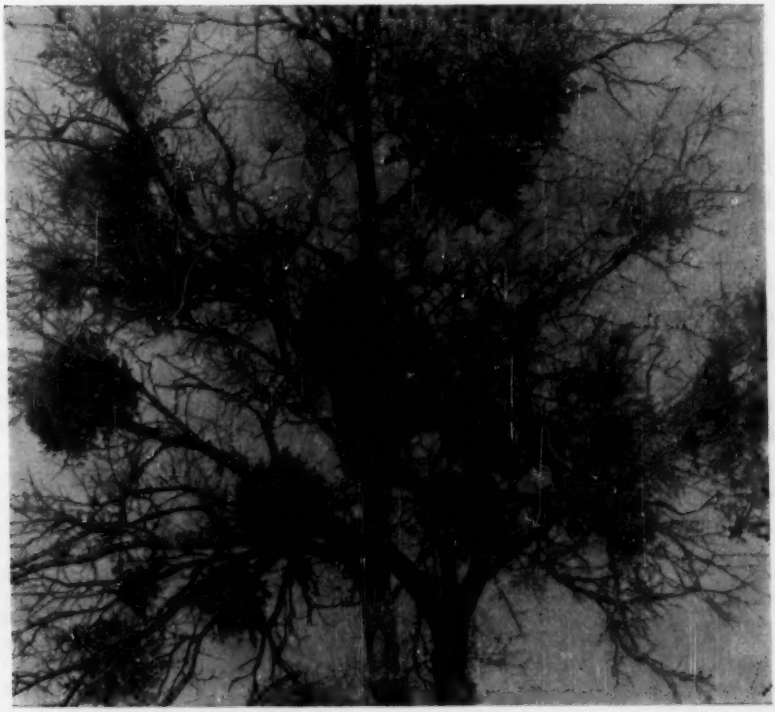


FIG. 1. Mistletoe grows in clumps in tree branches.

made of living chlorophyll and manufactures its own food."[6] It grows in great clumps in branches of various deciduous and evergreen trees. It is an evergreen with jointed branches often as long as four feet.

The evergreen leaves are thick and oval. The minute blossoms are yellowish green, and form small white berries which contain seeds and sticky juices.

The ripe berries adhere to the beaks and claws of birds and are carried to limbs of other trees where they are wiped off into the joints and bark. The seeds take root in both deciduous and evergreen trees, but never in the ground. Propagation from the seed begins when the haustoria (rootlets) reach into the conducting tissues of the host for their water supply.[7]

In the United States, mistletoe appears from New Jersey southward and westward. The poplar, willow, mountain ash, maple, mesquite and rarely the oak are listed by many authorities as most likely to be attacked by the parasite.

The Future

Cultivation and production costs are nil since yearly propagation is assured, and transportation to sheds is at the expense of the pickers. Owners of the sheds bear costs of weighing, boxing and shipping. Markets are available both by contract and open sales.

The gay custom of using mistletoe for home decorations and lapel ornaments during the Christmas season has grown to national extent, and the demand is being supplied on a quick, easy, do-it-yourself basis by a few alert shed operators.

As long as a kiss is free under the mistletoe, the ancient Norse myth will put money into the "jeans" of the people in Mills County, Texas.

[6] Clarence J. Hylander, *The World of Plant Life*. The Macmillan Company, New York, 1942.

[7] Ibid.

THE NATIONAL COUNCIL AT WORK

Distinguished Service Award Committee. The following persons are members of this committee for 1956: Mamie L. Anderzhon (Chairman), 112 North Marion St., Oak Park, Illinois; Katheryne T. Whittemore, State University College for Teachers, Buffalo, N.Y.; Howard Martin, University of Washington; A. H. Meyer, Valparaiso University, Valparaiso, Indiana; M. Melvina Svec, State University College for Teachers, Oswego, N.Y.; Norman Carls, University of Pittsburgh; John W. Morris, University of Oklahoma, Tulsa, Oklahoma.

The NCGT Constitution sets up the following duties for this committee:

"The Award Committee may make and receive nominations for the Distinguished Service Award. Any member of the National Council of Geography Teachers may send a nomination to the committee. Such nominations must be accompanied by a full statement of the service rendered to geographic education by the nominee."

Do you have a nomination you wish to submit for the Distinguished Service Award? Nominations may be sent to Miss Mamie L. Anderzhon, committee chairman, or to any member of the committee. The nominee need not be a member of the NCGT. One committee member suggests that the following criteria be considered in making nominations for this award:

"Awards made in the past reveal that four types of achievement have provided the basis for this honor.

1. The training of teachers in the field of geography.
2. Authorship of books and articles of value to geographic education.
3. Contributions to the advancement of geography as a profession.
4. Active and constructive participation in the work of the NCGT."

Past recipients of this award are:

1932—William Morris Davis
1933—R. H. Whitaker
1934—A. E. Parkins
1935—D. C. Ridgley
1936—Isaiah Bowman
1938—George J. Miller
1939—Mark Jefferson
1940—J. Russell Smith
1942—Ellsworth Huntington
1943—Wallace W. Atwood
1944—Gilbert Grosvenor
1945—Allison Aitchison
1946—Richard E. Dodge
1947—Alice Foster
1948—Stephen S. Visher
1949—Edith P. Parker
1950—Vernor Finch
1951—Zoe A. Thralls
1952—Charles C. Colby
1953—Cora Sletten
1954—Erna G. Gilland
1955—J. R. Whitaker

Nominating Committee. Henry J. Warman has consented to serve as chairman of the NCGT Nominating Committee. Offices of the National Council of Geography Teachers to be filled by election in November, 1956, are: First Vice President (President-elect); Second Vice President; Treasurer; and three new members of the Executive Board. The chairman of the Nominating Committee will welcome your recommendations.

Conference Participation. At the annual meeting of The American Academy of Political and Social Science, held in Philadelphia on April 20th and 21st, the NCGT was represented by Adelbert K. Botts and H. Phillip Bacon.

At the annual Conference on Elementary Education, sponsored by the U. S. Office of Education and held in Washington, D.C. on May 7-9, the NCGT was represented by Helen Mixter and George Beishlag.

NORMAN CARLS, *President*

GEOGRAPHICAL PUBLICATIONS

Ruby M. Harris. South America Series of four filmstrips entitled **Lands and People of Northern South America—Colombia, Venezuela, and the Guianas** (49 frames); **Lands and People of the Middle Andes—Ecuador, Bolivia, and Peru** (57 frames); **Lands and People of Southern South America—Chile, Argentina, Paraguay, and Uruguay** (57 frames); and **Land and People of Brazil** (52 frames). Society for Visual Education, Chicago. Each strip **$6.00** and complete set **$19.00.**

Lands and People of Northern South America begins with two maps and shows contrasts between tropical highlands and lowlands in Colombia. The continuity of this film is an improvement over previous SVE strips on Latin America. However, the frames of cacao, coffee, and cattle farms could be better arranged around a traverse up the Magdalena River and side traverses into varying land use regions on either side of the valley, dove-tailing with map locations.

The strip includes excellent frames of Lake Maracaibo and petroleum development, Caracas, the Orinoco and new iron ore mines, and a map of petroleum, iron, and bauxite deposits in northern South America.

Lands and People of the Middle Andes shows the Bolivian countryside very well, but frames on Ecuador are meager. The Peruvian highlands are neatly sampled by frames of mining towns, native subsistence agriculture, and llama transportation. The contrasts of commercial oasis agriculture on the coast and highland farming are not presented.

Lands and People of Southern South America like the other strips of the series emphasizes the geography of the rim of South America, especially the large cities. It includes the best sequence of frames in the entire series in its portrayal of Chilean regions, north to south.

Land and People of Brazil concentrates on contrasts between cities of the Southeast and the activities of the Amazon Basin. Recent shots of the Volta Redonda steel plant and glamorous pictures of Rio will appeal to students. The deficiencies of this strip are the lack of frames showing South Brazil and the lack of a map showing mineral deposits and transportation.

The South American filmstrip series is very suitable for use at the elementary and secondary levels. Up-to-date pictures add to its usefulness.

JACK RANSOME

Indiana University

George W. Hoffman and Viola Hoffman. **Life in Europe—Switzerland.** The Fideler Company, Grand Rapids, Michigan, 1955. 160 pages with illustrations, glossary and index. **$3.28.**

In a guide to the teacher the authors have packed into two pages many helpful suggestions on a number of ways the teacher can use this book either as a text or for supplementary reading.

Photographs: Every child will be attracted by the excellent half-page and sometimes full-page photographs on nearly every page of the book. These photographs have been selected carefully to tell definite stories and give information about Switzerland. They not only tell how people work and live but are good for motivating questions about what it is like to live in the mountains and valleys of Switzerland. The double

caption not only provides specific identification but serve as an added means of helping the learner read from the photograph information about the country and the people.

Printed text: Nineteen well written, short chapters tell the learner about the land, climate, people, houses and homes, farming and grazing, industries foreign trade, recreation, festivals, customs, transportation, cities, schools, and government. For the most part short and direct sentences make the text move rapidly. The author has wisely used a technique of having the reader refer to the glossary for unfamilar terms that require explanation. Each chapter is concluded with three or four well chosen sentences that helps the learner summarize what he has read.

Maps: The few maps are selected to carry the necessary detail the child needs for location of places and features. The legends are readily followed.

The reader of this book can't help but want to read and learn more about how people work and live in the Swiss Alps, and he will identify himself with some of the children he sees in the pictures. This book should have a wide appeal for children from late third grade thru intermediate and, in some instances, junior high level, for it gives the kind of information children can grasp and understand.

MAMIE L. ANDERZHON

William Beye School
Oak Park, Illinois

E. Aubert de la Rue. **Man and the Winds.** Philosophical Library, New York, 1955. 206 pages with illustrations, bibliography and index. **$6.00.**

The English translation of the 1939 edition of this French work presents much information concerning winds and their effects. It is a useful reference for teachers of all levels and for especially interested students from the upper grades onward. Numerous interesting class reports could be prepared with the help of this first book devoted to the human geography of the winds.

S. S. VISHER

Indiana University

Jesse H. Wheeler, Jr., J. Trenton Kostbade, and Richard S. Thoman. **Regional Geography of the World.** Henry Holt and Co., New York, 1955. xii and 628 pages with illustrations, maps, and index. **$6.50.**

Good regional geographies of the world have been relatively scare in recent years, possibly because of the magnitude of information that must be encompassed in a single volume. This new work begins with a chapter on introductory concepts of geography, including that of major world regions, which the authors define as Anglo-America, Latin-America, Africa, Europe, the Middle East, the Soviet Union, the Orient, and the Pacific World. These "regions" are the basis of the main divisions of the book. Europe is singled out for the greatest attention in ten chapters; the Orient is covered in five chapters and the remaining regions are allotted two chapters each. The authors are to be commended for the manner in which they have undertaken to divide the world into appropriate regions without becoming deeply involved in the traditional arguments over the meaning of the expression "Geographic Regions." Not all readers will agree with their delimitation of regions or with the emphases that appear therein.

The text is almost entirely descriptive in nature and little attempt has been made to provide comparisons of the various nations and regions described. The volume contains a sufficient number of maps so that it can be used without the necessity of a supplementary atlas.

Freshman students will find this book difficult to read. The authors have written short sections and sub-chapters which seem to bear no relationship to each other. Sub-chapter and paragraph headings are so prominent that they destroy the unity of the pages. Most of the maps are well drawn, altho some have been reduced to the point that their lettering is difficult to read. Photographs for the most part have been selected with care, but they have not been tied in any direct way to the text material.

On the whole, the content of this volume represents a satisfactory approach to a regional description of the world for the beginning student. Unfortunately, the manner in which the material has been presented tends to detract from the over-all value of the work as a college text.

H. F. RAUP

Kent State University
Kent, Ohio

F. G. Pedler. **Economic Geography of West Africa.** Longmans, Green and Co. London and New York, 1955. xii and 232 pages with 16 maps, 18 photographs and index. $3.25.

Too frequently in the literature of geography of the tropics the possibilities of more intensive agriculture and industrialization are discussed without close reference to economics. Pedler does not make this mistake. In fact, his book might be titled "The Economy of West Africa" because, as he states, "the purpose is . . . by using the economist's system of analysis and reasoning, to establish the relationship of cause and effect in the work-a-day world of West Africa."

The author analyzes many obstacles which may block rapid economic development in West Africa and discusses them according to choice of production, processing, transportation, distribution, labor, capital, management, money and banking, and taxation. Pedler contributes most vividly to the economic geography of West Africa when he examines the specific place, the specific problem, and the economic feasibility of the suggested solution. The reviewer wishes that this sampling approach were more greatly emphasized because in these sections Pedler's field work expresses Africa as it is. When he drifts into the realm of economic theory his conclusions are precarious, perhaps inaccurate, partly, as he realizes, because of the difficulty of generalizing about West Africa. For the purposes of this book West Africa is largely British West Africa, altho references are made to French West Africa and Liberia.

The discussion on African markets and distribution is excellent. The chapter on mineral resources is a neat assessment of deposits in British West Africa. Maps in this and other chapters do not show all places and features mentioned in the text.

Pedler's book is a provocative reading assignment for a regional geography course of Africa.

JACK C. RANSOME

Indiana University

Jean Gottmann. **Virginia at Mid-Century.** Henry Holt and Co., Inc., New York, 1955. vii and 584 pages with illustrations, photographs, maps, bibliography and index. $7.50.

The introduction relates the significance of Virginia in the history of America and the part played by Virginians in its growth.

Part one is entitled "The Land and the People," and has been subdivided into three chapters. The first chapter discusses the physical elements and population patterns.

The second deals with changes in Virginia during the past three and one-half centuries —a historical geography study. The third chapter discusses the regional divisions and the modes of life in each. These divisions follow closely the physiographic units and their subdivisions.

Part two has five chapters that deal with the distribution and uses of Virginia resources. These are grouped under the following headings: The Forests: Their Use and Misuse; The Use of Farmland; The Resources of the Underground; The Manufacturing Industries; and Assets and Liabilities of Location.

Part three is entitled "The Old Dominion Grows Young." Many of the features associated with the concept of an "old" country have retreated in a degree into the background. The changes in the recent twenty-five years testify plainly to a rejuvenation. The two chapters under Part three are: Metropolitan Growth and Breaking Partitions: Migrations, Roads, and Schools. In the conclusion an attempt is made to analyze the present personality of Virginia and of its people.

The text is well illustrated. Sixty-four maps and charts are used, including both historical and modern maps. This text attempts to describe the Commonwealth of Virginia as it is today and to examine objectively its resources, its problems, and its potentialities.

CHARLES F. LANE

Longwood College
Farmville, Virginia

William L. Shirer. **The Challenge of Scandinavia: Norway, Sweden, Denmark and Finland in Our Time.** Little, Brown and Company, Boston and Toronto, 1955. 437 pages with appendix and index. $5.00.

The increased significance of Scandinavia in world affairs is indicated by the number of post-war books published on that area. The most recent by W. L. Shirer joins such others as *The United States and Scandinavia* by F. D. Scott, *Scandinavia: Between East and West* by Henning Friis, *The Northern Tangle* by Rowland Kenny, and *The Scandinavian States and Finland* under the auspices of the Royal Institute of International Affairs. The approach and emphasis of each varies with the background and interest of the author. Thus, Shirer, viewing Scandinavia as a newspaper foreign correspondent, presents a journalistic treatise aimed at the general public.

After a general introductory chapter, a long chapter is devoted to each of the Scandinavian nations. With an eye towards news items, Shirer plays up the socialistic or welfare state aspects and the role of each country in international affairs primarily from 1940 to 1955. As a result the geography, which is exceedingly important in the lives of Scandinavians, is slighted. In the first chapter, two and one-half pages are devoted to "A capsule of geography," largely an analysis of the position of Scandinavia. In the Denmark chapter a geographic sounding section headed "The Land and the People" (p. 241) is mostly an analysis of the role of cooperatives in Danish agriculture.

The book, however, contains a wealth of factual and interpretive material which is of value to the geographer. The information is up-to-date, interestingly written, based mostly on personal observations and impressions backed by authoritative statistical and other sources, and certainly pertinent towards gaining an understanding of the area.

LAWRENCE M. SOMMERS

Michigan State University
East Lansing, Michigan

John D. Black. **Biological Conservation.** McGraw-Hill Book Co., Inc., New York, 1954. xiv and 328 pp. with maps, illustrations, bibliography and index. $5.00.

This volume by the professor of zoology in the Kirksville, Missouri, Teachers College presents much of interest to teachers in high school, college and in grade school who are interested in conservation. It presents well conservation problems and methods as to wildlife. Part I, Basic Considerations, deals with The Need for Conservation, Historical Review, Essentials of Life, Soil and Water. Part II, The Environment, discusses Basic Ecology, Standing Water, Running Water, Grasslands and Wildlife, and Forests. Part III, Fish and other aquatic animals, devotes three chapters to fish, one to reptiles and amphibians and one to invertebrates. Part IV has five chapters on birds, Part V has four chapters on mammals. Part VI, Solving the Problem, includes Administration of Conservation, an Annotated Bibliography and a Film Guide.

Each chapter commences with an excellent quotation and ends with a bibliography. The annotated bibliography supplements the chapter bibliographies. The Film Guide is devoted mainly to films which are free to schools.

This book is written in a non-technical manner and interestingly. The illustrations contribute to the attractiveness and utility of this book. Altogether it is a useful book for teachers and interested pupils.

Indiana University

STEPHEN S. VISHER

GEOGRAPHICAL MATERIALS RECEIVED

Vello Pekomae, Ed. **Estonia in Pictures and Words.** Eesti Kirjastus Publishing Co., Ltd., Stockholm, Sweden. English edition, 1955. About 90 pages.

The excellent photographs dating from pre-1940 present an objective overview of both urban and rural landscapes. The sponsors hope to arouse some non-communist sympathy for the re-establishment of Estonian independence.

Simon Kuznets, Wilbert E. Moore and Joseph J. Spengler, ed. **Economic Growth: Brazil, India, Japan.** Duke University Press, Durham, North Carolina, 1955. xi and 613 pages with tables and index. $12.50.

This volume of papers is the product of a research conference planned by the Committee on Economic Growth of the Social Science Research Council, held in 1952.

Jean Gottmann. **Virginia at Mid-Century.** Henry Holt and Co., Inc., New York, 1955. vii and 584 pages with illustrations, photographs, maps, bibliography and index. $7.50.

This volume describes the Commonwealth of Virginia as it is today and examines its resources, its problems and its potentialities.

George B. Cressey. **Land of the 500 Million—A Geography of China.** McGraw-Hill Book Co., Inc., New York, 1955. xv and 387 pages with illustrations, maps, bibliography and index. $7.50.

This book is primarily a human geography but at the same time there is a thoro analysis of the environmental base. It ranges over a broad field from geology and meteorology to economics and geopolitics and includes economic development under the Communists.

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Living in the Balkans, Southern and Southwestern Asia
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Living in North Africa
Living in Australia and the Pacific Islands

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EDITORIAL NOTES AND NEWS

Are you going to attend the National Education Association convention in Portland, Oregon, July 1-6? Geography teachers should contact Miss Hazel Newhouse, 4709 N. Willamette Blvd., Portland 3, Oregon. It is probable that the Oregon State Council of Geography Teachers will have a booth at the NEA center. Miss Newhouse will be pleased to assist all visiting geography teachers.

In 1954 the 3.2 billion dollars in merchandise shipped from the United States to Latin America represented more than one-fourth of the total United States commercial shipments abroad. Today, the United States supplies Latin America with one-half of its imports, while in the immediate pre-war years our southern neighbors obtained only one-third of their foreign purchases from us. For individual countries the United States share of exports varies considerably. It ranges from over 70 per cent in Mexico to about 15 per cent in Argentina. The relative importance of United States trade is generally greatest in those Latin American countries located closest to us.

A National Institute of Atomic Energy has been set up in Brazil and the government is moving to take control of all radioactive minerals. The Institute will buy an atomic reactor in the United States to start the atomic energy program. Uranium, thorium, and radioactive sands are found in the state of Espiritu Santo.

Atomic energy development looms very significantly in the industrial future of Brazil because of present shortages of petroleum and high-grade coking coal. Exports of Brazilian iron ore and recent agreements with foreign countries to export manganese ore may indicate a relaxing of economic nationalism in Brazil. Will this trend progress far enough so that American companies will be invited to help the Brazilian government find and bring petroleum to the surface?

EDITORIAL NOTES AND NEWS

Most children are able to execute simple maps by the fourth grade. In an hour a group of twenty should be able to orient themselves with respect to the compass, and plot the houses in a small city block. Concepts about compass direction, spatial relations, and pacing distance can be best taught in coordination with actual map-making. It is suggested that large classes be divided into small groups and map at different times, so that each student has a chance to use the compass and other equipment. If each student has a small plywood board with a broad elastic to hold colored pencils, map-sketching is more easily accomplished.

Studies by the Twentieth Century Fund reveal the following interesting facts:

"Today we can produce on 20 to 25 million acres about the same amount of cotton as we produced on 40 million acres 25 years ago.

"As of 1950 some 57-58 per cent of the nation's farms were operated by full owners; about 15 per cent by part-owners; and 27 per cent by tenants. Nearly a fourth of the tenants were croppers, that is, operators who contribute little capital or management and are paid by receiving a share of the crop.

"More than three-fourths (77 per cent) of persons living five to ten miles away from their place of employment, and more than five-sixth (84 per cent) of those living more than ten miles away, depend on cars for home-to-work transportation.

"Although large numbers of older people have migrated to California and Florida, the proportion of older people in the population in both of these states is still below the national average of 8.2 per cent of the population.

"The railroads of the USSR, Japan and India carry the heaviest passenger traffic in the world.

"About one-third of all passengers between Paris and London and seven out of ten between the United States (and Canada) and South America travel by air.

"Some 99 per cent of the U.S. tobacco output is trucked to market; 97 per cent of the milk; 96 per cent of poultry, eggs and cotton and 91 per cent of the grain.

"Hybrid corn permits us to grow nearly one-third more corn on only 82 per cent of the land needed in the early 1930's.

"Farm motor trucks numbered less than 1,000 in 1910, but had reached 2.5 million by 1953 and nearly a million of these have been added since 1946. Between 1910 and 1952, the number of farm automobiles increased from around 50,000 to 4.4 million; grain combines from 1,000 to 887,000; corn pickers from none to 588,000; and farms with milking machines from 12,000 to 686,000.

"Some 4.9 million American farms—more than 90 per cent of the total—were being supplied with electric power in 1953.

"Ships carry more than three-fourths of the total tonnage of goods exchanged among nations and continents.

"Production of motor vehicles, parts and tires occupied some 900,000 persons in 1952, and 600,000 worked in associated industries and services (such as insurance, financing, battery manufacture); some 300,000 were engaged in producing gasoline and oil."

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EDITORIAL NOTES AND NEWS

The primary hope of those of us who teach elementary and secondary education students in colleges is that we can prepare and inspire them to do a far better job of presenting geography in the grades than the way we were taught. The tendency in schools of higher learning to sever methods of teaching geography and the subject matter of geography into separate courses places a special burden upon geography professors. Many are not aware of this responsibility. Only at infrequent intervals are teachers-to-be given examples in their required geography courses how to present and illustrate certain concepts. How many professors teaching geography to education majors have ever taught in the grades, or intend to take advantage of such an opportunity in a college town, in order to be a better example to future teachers?

The large globes of many school libraries often occupy very inconspicuous, dimly-lit, and dusty corners. A globe must be seen to be appreciated. Bring forth your school globe to a prominent place near the entrance to the library. A small bulletin board and streamers of ribbon from it to the globe may serve several purposes: current events may be summarized and interpreted on the board by the geography department; events and places may be associated as they should be; and interest in studying the globe may be stimulated.

GEOGRAPHICAL MATERIALS RECEIVED

Ruby M. Harris. Living in Central and Southern Europe series of four filmstrips: **Living in Central Europe (Austria and Switzerland)** (60 frames), **Living in West Germany** (64 frames), **Living in Italy** (60 frames) and **Living in Spain and Portugal** (66 frames). Society for Visual Education, Chicago, 1955. Series, $19.00, each filmstrip, $6.00.

John Fraser Hart. **The British Moorlands—A Problem in Land Utilization.** University of Georgia Press, Athens, 1955. viii and 98 pages with illustrations and bibliography. $2.00.

University of Georgia Monographs, No. 2, includes Moorland environment, agriculture and afforestation.

John Y. Keur and Dorothy L. Keur. **The Deeply Rooted.** J. J. Augustin, Inc., Publisher, Locust Valley, New York, 1955. 208 pages with illustrations, maps and bibliography. $3.00.

A study of a Drents community in the Netherlands. Monographs of the American Ethnological Society XXV.

Stewart Perowne. **The One Remains.** E. P. Dutton & Co., Inc., New York, 1955. 192 pages with illustrations and index. $5.00.

A report from Jerusalem.

Lucille Iremonger. **The Young Traveler in the West Indies.** E. P. Dutton & Co., Inc., New York, 1955. 215 pages with illustrations and index. $3.00.

Edited by Margaret Hodges, this is another book in The Young Traveler series.

Honor Wyatt. **The Young Traveler in Portugal.** E. P. Dutton & Co., Inc., New York, 1955. 224 pages with illustrations, glossary and index, $3.00.

Edited by Georgia Lingafelt, another in The Young Traveler series.

Henry Gibbs. **Background to Bitterness.** Philosophical Library, New York, 1955. 255 pages with bibliography and index. $4.75.

The story of South Africa, 1652-1954.

Ruby M. Harris. Living in the Balkans, Southern and Southwestern Asia series of four filmstrips: **Living in Greece and Yugoslavia** (69 frames), **Living in Turkey** (61 frames), **Living in Southwestern Asia** (64 frames), and **Living in India and Pakistan** (69 frames). Society for Visual Education, Chicago, 1955. Series, $19.00, each filmstrip, $6.00.

Clement Robichon and Alexandre Varille. **Eternal Egypt.** Philosophical Library, Inc., New York, 1955. 15 pages and 144 photographs. $6.00.

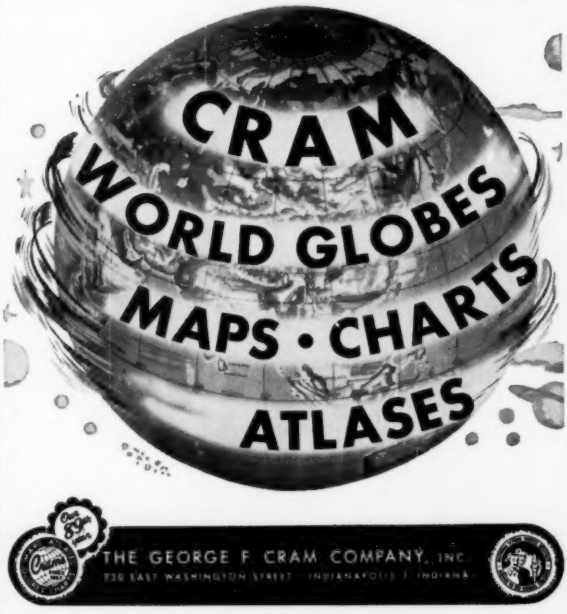
Translated by Laetitia Gifford, this book of photographs has detailed notes to each picture.

Dorothy Woodman. **The Republic of Indonesia.** Philosophical Library, Inc., New York, 1955. 444 pages with bibliography and index. $6.00.

The book gives a general description of the region and its inhabitants, including an historical survey from early invasions to the eve of the last war; records the struggle of the Indonesian people and the history of the Republic down to the beginning of 1955.

W. S. Woytinsky and E. S. Woytinsky. **World Commerce and Governments.** The Twentieth Century Fund, New York, 1955. xxxvii and 907 pages with illustrations, maps, tables, references and index. $10.00.

This volume outlines the current changes in commerce, transportation, and the political and financial organization of nations and their cooperation in our era.



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Charles E. Fox. **Woodland Conservation for Teachers.** U.S. Department of Agriculture Forest Service, North Central Region, Milwaukee, Wisconsin, 1955. 124 pages with illustrations.

The content of this publication is directed toward the renewable natural resources in the woodlands of Iowa, Illinois, Indiana and Ohio. It is to be used as a supplementary text.

Cuba. Pan American Union, Washington, D.C., 1955. 39 pages with illustrations. 10 cents. A descriptive folder.

Admiral Lord Mountevans. **The Antarctic Challenged.** John de Graff, Inc., New York, 1956. vi and 247 pages with photographs and index. $4.50.

Reviews what is known about the Antarctic down to the 1956 expeditions and tells about each expedition, by a member of Captain Scott's party, 1910-1913.

Yuan-li Wu. **An Economic Survey of Communist China.** Bookman Associates, New York, 1956. x and 566 pages with tables, charts, bibliography and index. $12.50.

A survey, culled from original sources, of Communist China's economic resources, pinpointing China's industrial and military potential.

Physical Environment and Man

by

Adelbert K. Botts
Bernice M. Casper
S. T. C. Trenton, N.J.

A study guide for an introductory course in college geography.

—80 Pages— —$1.75—

Published by

J. W. Edwards, Ann Arbor, Mich.

ATLAS OF THE WORLD'S RESOURCES: THE AGRICULTURAL RESOURCES OF THE WORLD, VOL. I

by WILLIAM VAN ROYEN, University of Maryland (published for the Univ. of Maryland)

This is the first complete agricultural resources atlas compiled since 1917. The text and maps supplement one another well, and the Atlas will be invaluable as a text reference for schools, government offices, business organizations, and the general public. It is an overview via maps of the present geographical distribution of agricultural production of the world, both crops and livestock, with statistical and other data made available by the countries of the world. The text of the Atlas has been designed to give the basic characteristics of each of the agricultural products dealt with, the physical-geographic conditions which are most important for production, especially commercial production, as well as the location and extent of the chief producing regions.

258 pages 15½" x 12¼" Published 1954

ATLAS OF THE WORLD'S RESOURCES: THE MINERAL RESOURCES OF THE WORLD, VOL. II

by WILLIAM VAN ROYEN, OLIVER BOWLES of the University of Maryland, in collaboration with ELMER W. PEHRSON, U. S. Dept. of Interior (Published for the University of Maryland)

Here is a unique atlas of the world's mineral resources, treating *both* mineral output *and* reserves. It is comprehensive and as authoritatively accurate as such a work can be. Maps and graphs show salient features of the geographic distribution of mineral deposits and mineral production, as known at the present time, and many special maps show major deposits in considerable detail. The text is designed to review in succinct form the principal technical factors that enter into exploitation of deposits and other geographic distribution. Emphasis is focused upon major mineral deposits which are in exploitation at the present time and also upon those which may play an active role in the near future.

180 pages 15½" x 12¼" Published 1952

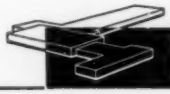
ELEMENTS OF POLITICAL GEOGRAPHY, 2nd Ed.

by SAMUEL VAN VALKENBURG, Clark University, and CARL STOTZ, formerly of the University of Pittsburgh

Seeking to lay the groundwork for an understanding of world problems and to lay the basis for further detailed studies, this text thoroughly explores basic principles of political geography and new ideas and interpretations, and at the same time provides a general view of world geography—a fine introduction to later regional or area studies.

The text provides a concise analysis of the key factors in making a political geographic evaluation of an area: political, physical, economic, human-cultural, and colonial.

400 pages 6" x 9" Published 1954



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